No. 15884

United States
Court of Appeals
for the Ninth Circuit

ROHR AIRCRAFT CORPORATION and THE FRANKLIN C. WOLFE COMPANY, INC., Appellants,

vs.

RUBBER TECK, INC., RUBBER TECK SALES AND SERVICE CO., PAUL A. KARRES, OTTO R. GRASS and JOE P. KERLEY, Appellees.

RUBBER TECK, INC., RUBBER TECK SALES AND SERVICE CO., PAUL A. KARRES, OTTO R. GRASS and JOE P. KERLEY, Appellants.

vs.

ROHR AIRCRAFT CORPORATION and THE FRANKLIN C. WOLFE COMPANY, INC., Appellees.

Transcript of Record
(In Three Volumes)

VOLUME I.

(Pages 1 to 408, inclusive)

Appeals from the United States District Court for the Southern District of California, Central Division

Phillips & Van Orden Co., Fourth and Berry Sts., San Francisco, Calif.—6-25-58

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[Clerk's Note: When deemed likely to be of an important nature, errors or doubtful matters appearing in the original certified record are printed literally in italic; and, likewise, cancelled matter appearing in the original certified record is printed and cancelled herein accordingly. When possible, an omission from the text is indicated by printing in italic the two words between which the omission seems to occur.]

NAMES AND ADDRESSES OF ATTORNEYS

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* Page numbers appearing at bottom of page of Original Transcript of Record.

In the District Court of the United States, Southern District of California, Central Division

Civil Action No. 18237

ROHR AIRCRAFT CORPORATION and FRANKLIN C. WOLFE COMPANY, INC., Plaintiffs,

vs.

RUBBER TECK, INC., RUBBER TECK SALES AND SERVICE CO.; PAUL A. KARRES; OTTO R. GRASS; JOE P. KERLEY; DOE I, DOE II and DOE III, Defendants.

COMPLAINT FOR INFRINGEMENT OF U. S. LETTERS PATENT No. 2,396,005 AND FOR UNFAIR COMPETITION

For a First Claim Against Defendants, Plaintiffs Allege As Follows:

1.

This action arises under the patent laws of the United States of America and this Court has jurisdiction thereof under 28 U.S.C. 1338(a).

2.

Plaintiff, Rohr Aircraft Corporation, is a corporation duly organized and existing under and by virtue of the laws of the State of California, and has its principal place of business in Chula Vista, County of San Diego, and State of California. [2]

3.

Plaintiff Franklin C. Wolfe Company, Inc. is a

corporation duly organized and existing under and by virtue of the laws of the State of California and has its principal place of business in Culver City, County of Los Angeles, and State of California.

4.

Defendant Rubber Teck, Inc., is a corporation existing under and by virtue of the laws of the State of California and has a regular and established place of business in Gardena, County of Los Angeles in the Southern Judicial District of California.

5.

Defendant Rubber Teck Sales and Service Co. is a partnership comprised of Paul A. Karres and Otto R. Grass, co-partners, and has a regular and established place of business in Los Angeles County in the Southern Judicial District of California.

6.

The individual defendants Paul A. Karres, Otto R. Grass and Joe P. Kerley reside in Los Angeles County in the Southern Judicial District of California.

7.

Doe I, Doe II and Doe III are sued herein under fictitious names and leave of Court will be requested to substitute their true names when the same are ascertained.

8.

On October 2, 1944, United States Patent No. 2,396,005 for Sealing Device was duly and legally

issued to plaintiff Rohr Aircraft Corporation as the assignee of Bernard Gross and Leo W. Cornwall, the [3] joint inventors of the subject matter of said Patent. Plaintiff, Rohr Aircraft Corporation has been, since the issuance of said patent and now is, the owner of the entire right, title and interest in and to said patent and all rights to sue for past and present infringements thereof.

9.

Plaintiff, Franklin C. Wolfe Company, Inc. is the exclusive licensee of Plaintiff Rohr Aircraft Corporation under said Patent No. 2,396,005, with full rights to manufacture and sell devices embodying the subject invention and has continuously since 1946 engaged in the manufacture and sale of such devices on a large commercial scale.

10.

Said patent and the invention covered thereby are of great value to plaintiffs, and devices made and sold by plaintiffs embodying said inventions have been well and favorably received in the trade and valuable goodwill has been established therein.

11.

The defendants have jointly and severally, willfully and wantonly infringed, and are now infringing said patent by making, using and selling, and causing to be made, used and sold, in the Southern Judicial District of California and elsewhere in the United States, sealing devices embodying the inven-

by Congress various specialized Sealing Devices including devices embodying the invention disclosed and claimed in said Patent No. 2,396,005 and the trade secrets, technical information and data developed and perfected by Plaintiffs. As a result of the merits of said products and the knowledge and information developed by the Plaintiff, said sealing devices have had widespread commercial success and gained a valuable reputation in the trade. The plaintiff Franklin C. Wolfe Co., Inc. has adopted and used for Sealing Devices embodying the above-mentioned designs and inventions the trademarks "Lock-O-Seal" and "Stat-O-Seal" and have adopted and used for related sealing products the trademarks "Riv-O-Seal", "Termin-O-Seal", "Gask-O-Seal" and "Bolt-O-Seal". All of said trademarks of the Plaintiff Franklin C. Wolfe Co., Inc. have been duly registered in the United States Patent Office and have been extensively advertised and promoted by said plaintiff. Each new sealing device, as developed, is given a designation embodying the suffix "O-Seal" and this pattern is well known and recognized in the trade. As a result of these activities, the "O-Seal" portion of said trademarks has come to [6] have a secondary meaning in the trade as designating one of the related sealing products of Plaintiff Franklin C. Wolfe Co., Inc., and said Plaintiff has built up extensive goodwill in the reputation of said products and trademarks.

18.

At various times throughout the period 1944 to

1954, plaintiffs have employed the Defendants to manufacture for them different parts for the Sealing Devices embodying the invention disclosed in Patent No. 2,396,005 and for the purpose of enabling Defendants to manufacture said parts, and for no other purpose, have disclosed to the Defendants trade secrets, technical information and knowledge, engineering drawings and data and related information concerning plaintiffs' products necessary or desirable for the Defendants to have in carrying out the work for which they were employed. In some instances, Defendants have shipped goods for Plaintiffs directly to Plaintiffs' customers and as a result thereof have acquired lists of Plaintiffs' customers from Plaintiff. All of the information so disclosed to Defendants as aforesaid was imparted to them in trust and confidence and was so known and received by Defendants.

19.

While employed by Plaintiffs in a position of trust and confidence, Defendants jointly and severally, willfully and wantonly, aided, abetted, and conspired with each other to violate the trust and confidence imposed in them by Plaintiffs, to make wrongful use of the information imparted to them by plaintiffs, to compete unfairly with Plaintiffs, and to trade upon the goodwill and reputation of Plaintiffs. Pursuant thereto, Defendants hired former salesmen of Plaintiffs and surreptitiously commenced contacting Plaintiffs' customers and informing said customers that the Defendants could sup-

[Title of District Court and Cause.]

ANSWER OF RUBBER TECK, INC., RUBBER TECK SALES AND SERVICE CO., PAUL A. KARRES, OTTO R. GRASS AND JOE P. KERLEY

The above named defendants admit, deny and allege as follows:

1.

Defendants admit the allegations of paragraphs 1 to 6, inclusive.

2.

Defendants admit that on October 2, 1944, United States Patent No. 2,396,005 for Sealing Device was issued to plaintiff, Rohr Aircraft Corporation as the assignee of Bernard Gross and Leo W. Cornwall, but deny that the same were duly or legally issued. Defendants have no knowledge as to whether Rohr Aircraft Corporation has been since the issuance of said patent, or whether it now is the owner of the entire right title, and interest in and to said patent and all rights to sue for past and present infringement thereof as alleged in paragraph 8, and therefore deny this allegation in [10] paragraph 8 of the complaint.

3.

Defendants have no knowledge of the allegations of paragraph 9 of the complaint and therefore deny the allegations contained in this paragraph.

4.

Defendants have no knowledge of the allegations

contained in paragraph 10 of the complaint, and therefore deny the allegations in this paragraph.

5.

Defendants deny that they have infringed or are now infringing the patent in suit, either jointly or severally, or willfully or wantonly as alleged in paragraph 11 of the complaint; deny that sealing devices made, used, or sold, or caused to be made, used or sold by defendants embody the alleged invention alleged to be disclosed and claimed in the patent in suit; deny that they threaten to or will continue to infringe the patent in suit, and deny that they are causing plaintiffs great and irreparable or any damage.

6.

Defendants admit that Paul A. Karres and Otto R. Grass were and are directors of Rubber Teck, Inc.; admit that they are stockholders of said corporation; admit that Joe P. Kerley was a director and stockholder, but allege that Joe P. Kerley is not now and has not been since prior to this action was filed a director or stockholder of said corporation; deny that defendants Paul A. Karres, Otto R. Grass, or Joe P. Kerley instigated, directed, and controlled or induced and deny that they now direct, control or induce the alleged infringements committed by the corporate defendant or the alleged infringements of the partnership defendant, Rubber Teck Sales and Service Co., or that they were or are in direct personal control of all activities of said corporate and partnership defendants

before the invention thereof by the applicants for the patent in suit;

d) lacks invention over the disclosures made in the patents and publications as evidenced by the following:

Barwood	1,814,502	July 14, 1931
Blosser	242,744	June 14, 1881
Courtenay	234,967	Nov. 30, 1880
Dowty	2,455,982	Dec. 14, 1948 Filed July 16, 1945, and in Great Britain May 3, 1944
Schier	761,325	May 31, 1904
Fisher	2,017,204	Oct. 15, 1935 [13]
Hageman	794,499	July 11, 1905
King	2,081,040	May 18, 1937
Seligman	2,191,044	Feb. 20, 1940
Hilton	2,330,425	Sept. 28, 1943
Hart	67,539	Aug. 6, *1967*
Hart	128,391	June 25, 1872
Moser	1,208,620	Dec. 12, 1916
Pothier	2,054,468	Sept. 15, 1936
Rodney	271,365	Jan. 30, 1883
Welch	2,159,346	May 23, 1939
Ashley	2,123,035	July 5, 1938
Ashley	2,097,713	Nov. 2, 1937
Zigler	2,250,343	July 22, 1941
Burns	952,507	March 22, 1910
Buchanan	1,515,996	Nov. 18, 1924
Sorensen	2,289,221	July 7, 1942
Lehmann	1,254,514	Jan. 22, 1918

British Patent to Itschner No. 19,062, Oct. 24, 1912

British Patent to Aircraft Components Limited and Frederick Edward Killner, No. 537,654, July 1, 1941

and others, the names, numbers, dates of which defendants are not now advised but for which defendants are diligently searching and pray leave to insert herein by amendment when ascertained.

F.

As a Sixth Affirmative Defense, defendants allege that the patent in suit is unenforceable against the defendants in that the plaintiffs have been and now are guilty of unclean hands in that they have published and represented to the trade and public that the patent in suit applies to and covers sealing devices having an entirely different construction from the sealing device disclosed and claimed in the patent in suit and which in fact are not covered thereby. [14]

G.

As a Seventh Affirmative Defense, defendants allege, upon information and belief, that the defendants have mis-used the patent in suit by publishing and representing to the trade and public that the patent in suit covers constructions different from that disclosed and claimed in the patent in suit, including the constructions manufactured and sold by these defendants for the purpose of intimidating the trade and causing the trade to refuse to purchase defendants' sealing devices, and further,

that the applicants and assignee of the patent in suit so restricted their claims during the prosecution of the application before the Patent Office that they are now estopped to assert that the patent in suit covers any sealing device manufactured and sold by the defendants.

8.

Defendants admit the jurisdiction of the court as alleged in paragraph 14 of the complaint.

9.

Defendants re-plead and incorporate herein by reference their answers made to paragraphs 2 to 13 inclusive of the complaint hereinabove set forth.

10.

Defendants have no knowledge of the allegations of the paragraph 16 of the complaint, and therefore deny each and every allegation therein contained.

11.

Defendants have no knowledge of the allegations of paragraph 17 of the complaint except that they admit that plaintiff Franklin C. Wolfe Company, Inc., has adopted and has used and registered the trademarks "Lock-O-Seal", "Stat-O-Seal", "Riv-O-Seal", "Termin-O-Seal", Gask-O-Seal", and "Bolt-O-Seal", and consequently deny all of the other allegations alleged in paragraph 17 of the complaint. [15]

12.

Answering paragraph 18 of the complaint, de-

fendants admit that at various times throughout the period 1944 to 1954, plaintiffs employed the defendants or some of them to manufacture for plaintiffs different parts of the sealing devices embodying the alleged invention disclosed in Patent No. 2,396,-005, but deny that plaintiffs disclosed to defendants any trade secrets, technical information, knowledge, engineering drawings, data and/or related information concerning plaintiffs' products that were either necessary or desirable for the defendants to have in carrying out the work for which they were employed. Defendants admit that in some instances defendants have shipped goods for plaintiffs directly to plaintiffs' customers, but deny that as a result thereof defendants have acquired lists of plaintiffs' customers from plaintiffs. Defendants deny that any information disclosed to defendants was imparted to them in trust or confidence, and deny that the information disclosed to them was so known or received in trust or confidence by defendants.

13.

Answering paragraph 19 of the complaint, defendants deny that while employed by plaintiffs either in a position of trust and confidence or otherwise, that defendants, jointly or severally, aided, abetted and/or conspired with each other to violate the trust and confidence imposed in them by plaintiffs either willfully or wantonly or otherwise; deny that defendants either jointly or severally made wrongful use of any information imparted to them by plaintiffs or that they aided, abetted and/or con-

spired to do so; deny that defendants competed unfairly with plaintiffs, and deny that defendants have aided, abetted and/or conspired with each other to do so; deny that defendants have traded upon the good will and/or reputation of the plaintiffs, and deny that defendants have [16] aided, abetted and/or conspired with each other to do so. Defendants deny that they have hired former salesmen of plaintiffs and deny that they have surreptitiously commenced contacting plaintiffs' customers, and deny that they have informed plaintiffs' customers that defendants could supply the same or identical sealing devices as supplied by plaintiffs as alleged in paragraph 19. Defendants deny that they have surreptitiously, or otherwise, commenced the manufacture and sale of sealing devices which embody the invention disclosed in the patent in suit or any alleged trade secrets, technical data, or information supplied to defendants by plaintiffs in trust and confidence or otherwise. Defendants deny that the sealing devices manufactured by defendants are of the same appearance as those of plaintiffs, and deny that said sealing devices are of inferior quality or are of inferior workmanship.

14.

Answering paragraph 20 of the complaint, defendants deny that pursuant to any alleged conspiracy or otherwise, defendants have in any way whatsoever appropriated, duplicated, or made colorable imitations of the trademarks, trade literature, technical specifications, sizes, or markings of plaintiffs'

sealing devices; deny that any acts of the defendants have been with the intent or for the purpose of confusing the buyers and causing the buyers to believe that defendants' goods are the goods of the plaintiffs; deny that any buyers have been confused or caused to believe that defendants' goods are the goods of the plaintiffs, and deny that any acts of defendants are likely to cause confusion, mistake, or deception of purchasers as to the source or origin of the goods, and deny that any acts of defendants constitute unfair trade practices or unfair competition with plaintiffs. [17]

15.

Answering paragraph 21, defendants deny that the acts alleged in the complaint have caused confusion, mistake, or deception of buyers in the trade, and deny that defendants have been enabled to or have palmed off defendants' products as those of plaintiffs; deny that by reason of any acts of defendants that defendants have been or are being unjustly enriched; deny that plaintiffs have been or are being irreparably damaged, and deny that plaintiffs have been damaged in any way or will continue to be so damaged unless defendants are enjoined by this court in continuing any of their present acts; deny that by reason of any acts of defendants, plaintiffs have been damaged in excess of $100,000. or that they have been damaged to any extent, and deny that plaintiffs are continuing to be damaged or that an accounting is necessary to ascertain the exact amount of such damage.

H.

As a First Affirmative Defense Against the Second and Separate Claim Against Defendants, defendants allege that matters alleged to have been transmitted to defendants by plaintiffs

1) have not been used by defendants or any of them; or

2) are matters of common knowledge open and available to anyone including these defendants to use; or

3) are matters required by governmental or customer's specifications; or

4) matters publicized by plaintiffs so that the same no longer possess any trade secret attributes; or

5) are matters which have been abandoned or dedicated to the public by plaintiffs; or

6) were matters developed by defendants themselves and were either disclosed by defendants themselves to plaintiffs, [18] or were suggested by defendants for experiment and test by plaintiffs; or

7) are matters which were discoverable by inspection or chemical analysis of the product openly sold by plaintiffs; or

8) were matters disclosed to defendants and others without any agreement, express or implied, to maintain any secrecy with respect to the same.

I.

As a Second Affirmative Defense Against the Second and Separate Claim Against Defendants, defendants allege that defendants have only sold

sealing devices under the trademark "Duo-Seal" and have never sold any of their own sealing devices under any of the trademarks alleged in paragraph 17, to wit: "Lock-O-Seal," "Stat-O-Seal," "Riv-O-Seal," "Termin-O-Seal," "Gask-O-Seal," or "Bolt-O-Seal."

J.

As a Third Affirmative Defense Against the Second and Separate Claim Against Defendants, defendants allege that the term "seal" or "O-Seal" is descriptive of the sealing devices manufactured and sold by the plaintiffs and manufactured and sold by the defendants and being descriptive plaintiffs have not acquired and cannot acquire any exclusive right to the use thereof. As evidence of the use of this term by others on the same or analogous devices reference is made to the following registrations in the United States Patent Office:

	Reg.	
Aero-Seal	No. 418,083	Dec. 4, 1945
BellOSeal	553,754	Jan. 22, 1952
Duoseal	416,870	Oct. 2, 1945
Faircoseal	401,038	Apr. 20, 1943 [19]
Faircoseal	506,013	Jan. 25, 1949
Flex-O-Seal	389,356	Aug. 5, 1941
Lektroseal	601,530	Feb. 1, 1955
LubOSeal	566,653	Nov. 11, 1952
Wabcoseal	520,261	Jan. 24, 1950
Sansealo	116,604	May 15, 1917
Seal-O-Matic	392,347	Dec. 23, 1941
Vapo-Seal	246,414	Sept. 4, 1928
Seal-o-matic	232,270	Sept. 6, 1927

	Reg.	
Cerroseal	No. 313,933	June 12, 1934
Vitroseal	574,970	May 26, 1953
Aero-Seal	388,786	July 8, 1941
Duoseal	426,108	Dec. 17, 1946
Frick Flexo-Seal	358,268	July 5, 1938
Granoseal	357,305	May 31, 1938
Koroseal	336,849	July 21, 1936
Koroseal	439,681	July 13, 1948
Spiro Seal	384,093	Jan. 7, 1941
Viscoseal	570,554	Feb. 17, 1953
Seal-o-matic	315,348	July 24, 1934
Auto-Seal	129,873	March 9, 1920
Spyroseal	175,807	Nov. 13, 1923
Thermo-Seal	150,118	Dec. 27, 1921

K.

As a Fourth Affirmative Defense Against the Second and Separate Claim Against Defendants, defendants allege, upon information and belief, that plaintiffs are guilty of unclean hands in that plaintiffs learned during the month of May 1954 from writeups and advertisements in national publications made by defendants and others that defendants were placing on the market their sealing devices under the trademark "Duo-Seal." In order to secure an [20] unfair advantage over defendants plaintiffs caused to be filed in the United States Patent Office on or about June 8, 1954, an application for registration of the trademark "Duo-Seal" as applied to sealing devices, Serial No. 667,916, alleging that plaintiffs had actually used the trade-

mark "Duo-Seal" on plaintiffs' sealing devices on April 20, 1954, whereas in fact, plaintiffs had made no use of the trademark "Duo-Seal" on April 20, 1954, are not now using the name "Duo-Seal" on plaintiffs' sealing devices, and have not used the name "Duo-Seal" on plaintiffs' sealing devices between April 20, 1954, and the date of the filing of the complaint herein; that upon information and belief, said application for registration of the name "Duo-Seal" filed by plaintiffs is still pending in the United States Patent Office and has not been abandoned.

L.

As a Fifth Affirmative Defense Against the Second and Separate Claim Against Defendants, defendants allege upon information and belief that plaintiffs have abandoned all claim to the trademark "Duo-Seal" as applied to sealing devices and having abandoned said trademark defendants were free to adopt and use the same.

M.

As a Sixth Affirmative Defense Against the Second and Separate Claim Against Defendants, defendants allege that its customers before adopting defendants' sealing devices and specifying their use subject defendants' sealing devices to very careful and rigorous tests, which tests are sometimes made individually and at other times are made in comparison with the sealing devices manufactured and sold by the plaintiffs and also by others; that by reason of such tests and records made with relation

to the same and [21] closely identified with the defendants' sealing devices, plaintiffs' customers are fully aware of the details of construction of defendants' sealing devices, their source, and the distinguishing characteristics of defendants' sealing devices from those of the plaintiffs.

N.

As a Seventh Affirmative Defense Against the Second and Separate Claim Against Defendants, defendants allege that such copying as may have been done of plaintiffs' trade literature and similar publications has been copying of published material on which plaintiffs have no copyright and which are consequently open to anyone including these defendants to copy if they choose to do so.

Counterclaim

Defendants, Paul A. Karres, Otto R. Grass, and Joe P. Kerley, Complaining of Franklin C. Wolfe Co., Inc. Allege As Follows:

16.

Defendants, Paul A. Karres, Otto R. Grass and Joe P. Kerley reside in Los Angeles County in the Southern Judicial District of California.

17.

That Franklin C. Wolfe Co., Inc., is a corporation duly organized and existing under and by virtue of the laws of the State of California, having its principal place of business in Culver City, County of Los Angeles, State of California. [22]

18.

That the acts of Franklin C. Wolfe Co., Inc. herein complained of have been committed within the Judicial District of the Southern District of California.

19.

That jurisdiction of this counterclaim is conferred upon this Court as the matter arises under the Patent Laws of the United States and 35 USC, Sec. 292, and this counterclaim is brought for the use of the defendants, Paul A. Karres, Otto R. Grass, and Joe P. Kerley as to one-half and for the use of the United States of America for the other half.

20.

That Franklin C. Wolfe Co., Inc. has caused to be printed, published, and used in advertising in connection with so-called Gask-O-Seals the statement "Patent No. 2,396,005" importing that the same is patented for the purpose of deceiving the public, whereas said Patent No. 2,396,005 does not cover the construction of the so-called Gask-O-Seal which fact was known or should have been known by plaintiff, Franklin C. Wolfe Co., Inc.

21.

That Franklin C. Wolfe Co., Inc. has caused to be printed, published, and used in advertising in connection with the unpatented, so-called "Termin-O-Seals" the statement "Patent No. 2,396,000" importing that the same was patented for the purpose of deceiving the public whereas the Termin-O-Seals

are not patented and are not covered by said Patent No. 2,396,000.

22.

That Franklin C. Wolfe Co., Inc. has caused to be printed, [23] published, and used in advertising in connection with so-called one-piece "Lock-O-Seals" the statement "Patent No. 2,396,005" importing that the same is patented for the purpose of deceiving the public, whereas the one-piece Lock-O-Seals are not covered by said Patent No. 2,396,-005 which fact was known or should have been known by Franklin C. Wolfe Co., Inc.

23.

That Franklin C. Wolfe Co., Inc. caused to be printed, published, and used in advertising in connection with its "Termin-O-Seals" and one-piece "Lock-O-Seals" the statement "Patents Pending" or words importing that an application for patent had been made thereon, whereas upon information and belief no application for patent had been made on either of said devices, or if made was not pending at the time such advertising was published; that these statements were made in such advertising for the purpose of deceiving the public.

24.

That the exact number of times that the plaintiff, Franklin C. Wolfe Co., Inc. caused the advertisements above mentioned to be printed, published and used in advertising is now unknown to the defendants and defendants consequently pray for an accounting.

Wherefore Defendants Pray

1. That the complaint be dismissed with costs to defendants and that defendants be awarded a reasonable attorney's fee.

2. That the claims of U. S. Letters Patent No. 2,396,005 be adjudicated to be invalid.

3. That defendants be awarded an accounting to determine the extent to which plaintiffs have been guilty of false marking in violation of Section 292 of the Patent Act of 1952. [24]

4. That defendants recover from the plaintiffs the penalty provided in Sec. 292 of the Patent Act of 1952, one-half to the use of the defendants and the other one-half to the use of the United States of America as provided in said section.

/s/ FRED H. MILLER,
Attorney for Defendants. [25]

Affidavit of Service Attached. [26]

[Endorsed]: Filed November 14, 1955.

[Title of District Court and Cause.]

PLAINTIFF FRANKLIN C. WOLFE COMPANY, INC'S. REPLY TO DEFENDANTS' COUNTERCLAIM

Answering Defendants' Counterclaim, the Plaintiff Franklin C. Wolfe Company, Inc., admits, denies, and alleges as follows:

1.

Admits the allegations of Paragraphs 16, 17, 18 and 19 of the counterclaim.

2.

Admits that the words and numerals "Patent No. 2,396,005" have appeared on advertising copy for Plaintiffs' product "Gask O Seal", as part of a general patent legend, admits that the said patent does not cover the construction of the product "Gask O Seal", and except therefor denies generally and specifically each [28] [copy missing]

3.

Admits that the words and numerals "Patent No. 2,396,005" have appeared on advertising copy for Plaintiffs' product "Termin O Seal", as part of a general patent legend through error, admits that the said patent does not cover the product "Termin O Seal", and except therefor denies generally and specifically each and every allegation of Paragraph 21 of the counterclaim.

4.

Admits that the words and numerals "Patent No. 2,396,005" have appeared on advertising copy for Plaintiffs' product one-piece "Lock O Seal", as part of a general patent legend and except therefor denies generally and specifically each and every allegation of Paragraph 22 of the counterclaim.

5.

Admits that the words "Patents Pending" have been used on advertising copy for Plaintiffs' products "Termin O Seal" and one-piece "Lock O Seal" as part of a general patent legend and except there-

for denies generally and specifically each and every allegation of Paragraph 23 of the counterclaim.

FULWIDER, MATTINGLY & HUNTLEY,
ROBERT W. FULWIDER,
JOHN M. LEE,
/s/ JOHN M. LEE,
Attorneys for Plaintiffs. [29]

Affidavit of Service by Mail Attached. [30]

[Endorsed]: Filed December 6, 1955.

[Title of District Court and Cause.]

MEMORANDUM

This case is one in which a decision is to be made by the Court on the elusive question of invention. The invention in issue concerns a fastener seal to prevent fluid leakage through the opening around bolts, rivets and the like. The seal in question is particularly useful in the aircraft industry where countless numbers of fasteners are passed through the skin and structural members of the ship.

In 1943, during the crisis of World War II, plaintiff Rohr Aircraft Corporation was given the urgent task of constructing integral fuel tanks in the PB2Y-3 aircraft. Prior thereto fuel for the aircraft had been placed in [31] containers within the wings, and it was hoped that by developing a proper fastener the container holding the fuel could be eliminated with the consequent saving of space

and weight. Plaintiff proceeded with the problem as presented and later obtained a patent on the two-piece fastener involved in this law suit.

Defendants or their predecessors were given the job of manufacturing the fasteners. Subsequent thereto defendants or their predecessors fell out with plaintiffs, lost the contract to manufacture the fasteners in question, and thereafter began the manufacture of their own fastener. Plaintiffs filed this action, claiming an infringement of its patent and unfair competition.

Two claims are made in the patent. Plaintiffs admit there is no infringement as to Claim 2 but allege there is infringement as to Claim 1. Claim 1 in part sets forth: " * * * a washer of rigid material, having a center bore surrounding the shank of the fastener and adapted to make rigid contact with the head of the fastener and a tank wall, and a rubber-like doughnut shaped ring positioned within the bore of the washer, said ring having a diameter greater than the thickness of the washer * * * " so that when pressure is applied the ring is deformed into sealing contact with the bore of the washer, the shank, the head of the fastener and the continuous portion of said wall.

Claim 2 is similar to Claim 1, except that instead of claiming a rubber-like doughnut shaped ring, the claim is a "rubber-like ring, having a body of circular cross-section and a greater diameter than the thickness of the sealing washer."

Evidently plaintiffs claim infringement because

of the use of the term "rubber-like doughnut shaped ring." At the trial the Court inquired of plaintiffs as to the [32] meaning of the term "rubber-like doughnut shaped ring," and the only interpretation the Court could obtain was "a ring shaped like a doughnut." In both claims there is a rubber ring. In both claims the rubber ring has a diameter greater than the thickness of the washer so that when pressure is applied the ring will be deformed and fill the space between the bore, the shank, the head of the fastener and the walls. A doughnut shaped ring is certainly a ring that has a circular cross-section.

Although plaintiffs do not designate the rubber rings used in the patent as "O" rings, nevertheless, the Court is of the opinion that the two rings described in the patent must be regarded as belonging to the O-ring family. There is no question but that the use of steel washers is old in the art, and O rings were used many years prior to plaintiff's patent as a sealing ring.

Defendants, in developing their fastener, vulcanized or attached the rubber ring to the steel washer, making it a one-piece fastener. Plaintiffs contend the rubber ring which was used by defendants in their fastener is a "rubber-like doughnut shaped ring." Inasmuch as plaintiffs used the term "rubber-like doughnut shaped ring" in the patent, this term must be strictly construed as against them. The Court is of the opinion the rubber ring used by defendants is not a doughnut shaped ring and,

as a consequence, there is no infringement as to Claim 1.

Defendants contend the patent is invalid. Plaintiff's invention consists of a metal washer which was in the public domain and a rubber-like "doughnut shaped ring" which plaintiffs claim to be new. Evidence in the case disclosed that prior to plaintiff's patent rubber O-rings [33] had been inserted inside steel washers. Plaintiffs' claim must rest upon the shape of the ring, i.e., "doughnut shaped." It is plaintiffs' contention that when pressure is applied the doughnut shaped ring will be distorted or deformed so that it will fill up the voids between the bore of the washer, the shank, the head of the fastener and the wall. Plaintiffs contend there is something about a doughnut shaped ring that makes it more adaptable to being deformed than any other shape ring.

It is apparent from the patent that the doughnut shaped ring has a greater thickness than the washer, but the Court cannot see any reason why a rubber ring, when compressed, will distort easier if it is doughnut shaped than it would if it had a circular cross-section. In other words, when pressure is applied the rubber has to be deformed regardless of the shape it is in at the time the pressure is brought to bear.

The claim states that the rubber-like doughnut shaped ring has a greater diameter than the thickness of the washer. It does not say how much greater—only greater. When there is a certain

void to be filled that void can be ascertained either by mathematical calculation or by a trial and error method. We assume that mathematicians could take the area to be filled, the size of the shank, the head of the fastener and the walls and determine mathematically just how much rubber would be needed to fill the void. On the other hand, the amount of rubber required could be determined by a trial and error method. Thus we come to the question whether or not the determination of the amount of rubber to be used in the sealing ring, either by a mathematical calculation or by trial and error, is invention. We are of the [34] opinion that plaintiffs' claim lacks the definition of "invention" as pronounced by the Supreme Court.

In addition plaintiffs claim unfair competition. Plaintiffs' complaint alleges that defendants appropriated certain trade secrets which were obtained from plaintiffs when defendants or the predecessors of defendants were manufacturing the seals in question. During pretrial conference and discovery proceedings defendants attempted to ascertain from plaintiffs the trade secrets which were alleged to have been appropriated. Defendants were unable to obtain such information. At the trial the officers of the corporation were asked what trade secrets were appropriated, and they were unable to designate the trade secrets referred to in the complaint.

At the time of trial the Court was of the opinion there might be unfair competition because of sim-

ilarity of names of the two seals. The Court was primarily of the opinion that because plaintiffs had called their seal "Stat-O-Seal" and the defendants had named their product "Duoseal" there might be some confusion of names; but it appears from the evidence produced that the term "o-seal" had been used for many years by parties other than those represented in this litigation. Such names as "Aeroseal", "Belloseal", "Flexoseal", "Autoseal" and many, many others have used the combination of "o-seal." Consequently, the Court is of the opinion plaintiffs do not have any priority to use the "o-seal" combination.

It is true that plaintiffs were able to produce one instance in which there had been a confusion between plaintiffs' seal and the defendants' seal; but it is admitted that the seals in question are sold by the thousands to a [35] multitude of manufacturers, and to produce one, isolated incident where there is a confusion does not establish confusion within the meaning of the law. Consequently, the Court will hold there is no unfair competition as alleged in plaintiffs' complaint.

No merit is found in defendants' counter-claim, and judgment on the counter-claim will be in favor of plaintiffs.

Defendants ask for attorney fees, but the Court is not of the opinion that this is a case justifying the award of attorney fees.

Judgment will be ordered in favor of defendants on the complaint and against defendants on the

counter-claim. Defendants' counsel is instructed to prepare findings of fact and judgment in conformity with this memorandum for presentation to the Court for signature on or before August 5, 1957.

Dated this 1st day of July, 1957.

/s/ HARRY C. WESTOVER,
United States District Judge.

[Endorsed]: Filed July 2, 1957.

In The United States District Court, Southern District of California, Central Division

Civil Action No. 18237-HW

ROHR AIRCRAFT CORPORATION, and THE FRANKLIN C. WOLFE COMPANY, Inc., Plaintiffs,

v.

RUBBER TECK, INC.; RUBBER TECK SALES AND SERVICE CO.; PAUL A. KARRES; OTTO R. GRASS; JOE P. KERLEY; DOE I, DOE II, and DOE III, Defendants.

FINDINGS OF FACT, CONCLUSIONS OF LAW, JUDGMENT

Findings of Fact

1.

Plaintiff, Rohr Aircraft Corporation, is a corporation of California, and is the owner by assign-

ment of United States Letters Patent No. 2,396,005, issued upon the joint application of Bernard Gross and Leo W. Cornwall.

2.

Plaintiff, The Franklin C. Wolfe Company, Inc., is a corporation of California, and is the exclusive licensee under said patent to manufacture and sell the patented seals.

3.

Defendants manufactured and sold seals alleged to infringe the patent in suit within the Southern Judicial District of California. [37]

4.

Defendants had notice of their alleged infringement.

5.

In 1943, Rohr Aircraft Corporation, plaintiff, was given the task of constructing integral fuel tanks in the PB2Y3 aircraft.

6.

Prior thereto, fuel for the aircraft had been placed in containers within the wings and it was hoped that by development of a proper seal the container holding the fuel could be eliminated.

7.

Plaintiff, Rohr Aircraft Corporation, proceeded with the problem as presented and obtained the patent in suit on a two-piece seal consisting of an outer flat metallic washer and an inner rubber

O-ring, the O-ring being circular in cross-section and slightly thicker than the thickness of the metallic washer.

8.

Defendants or their predecessors were given the job of manufacturing the patented seals for the plaintiff.

9.

Subsequent thereto defendants or their predecessors fell out with plaintiffs, lost the contract to manufacture the patented seals and thereafter began the manufacture of their own seals.

10.

Two claims are made in the patent but only one claim is in issue reading in part

"* * * in combination, a washer of rigid material having a central bore, surrounding the shank of the fastener and adapted to make rigid contact with the head [38] of the fastener and a tank wall, and a rubber-like doughnut shaped ring positioned within the bore of the washer, said ring having a diameter greater than the thickness of said washer and being confined in said washer with opposite sides thereof normally protruding from the opposite faces of the washer, whereby upon the underside of the head of the fastener compressing the rubber-like ring against a portion of one contiguous wall of the tank being fastened together, said ring is deformed into sealing contact with the bore of the washer, the shank, the head of the fastener, and said contiguous portion of said wall."

11.

Claim 2 which is not in issue is similar to claim 1 except that instead of claiming "a rubber-like doughnut shaped ring" reads in part

"a rubber-like ring having a body of circular cross section and a greater diameter than the thickness of the sealing washer."

12.

Defendants, in developing their seal, molded their rubber against the wall of the bore of the washer and vulcanized and bonded it thereto making a one-piece seal. While the inner portion of defendants' rubber ring is practically semi-circular in cross-section, the outer portion which is molded against and conforms to and is bonded to the bore of the washer is nearly rectangular in cross-section.

13.

Plaintiffs used the term "rubber-like doughnut shaped ring" in the patent and this term must be strictly construed as against them. The use of steel washers was old in the art and O-rings were used many years prior to plaintiffs' patent as sealing rings. [39]

14.

The rubber ring used by defendants is not a doughnut shaped ring. The prior art discloses that prior to plaintiffs' patent rubber rings had been inserted inside steel washers. Plaintiffs' claim of invention must rest upon the shape of the ring, i.e., "doughnut shaped." Plaintiffs contend that

when pressure is applied a "doughnut shaped" ring will be distorted or deformed so that it will fill the voids between the bore of the washer, the shank, the head of the fastener and the wall, and that there is something about a "doughnut shaped" ring that makes it more adaptable to being deformed than rings of other shapes. However, when pressure is applied a rubber ring within a surrounding thinner metal washer has to be deformed regardless of the shape it is in at the time the pressure is brought to bear.

15.

Claim 1 of the patent in suit states that the rubber-like doughnut shaped ring has a greater diameter than the thickness of the washer but it does not say how much greater—only greater. The determination of the amount of rubber required to fill a void between a metallic washer and the shank of a fastener can be determined either mathematically or by trial and error.

16.

There is no invention in the structure defined by claim 1 of the patent in suit nor in determining the amount of rubber to be used in the sealing ring either by mathematical calculation or by trial and error.

17.

Prior patents relied upon by defendants as anticipating the alleged invention claimed by claim 1 of the patent in suit and as demonstrating that the

structure defined [40] by this claim lacks invention are the following:

British Patent to Aircraft Components Limited and Frederick Edward Killner, No. 537,654, July 1, 1941; U. S. Patent to Seligman, 2,191,044, Feb. 20, 1940; U. S. Patent to Hart, 67,539, Aug. 6, 1867; U. S. Patent to Hart, 128,391, June 25, 1872.

none of which were cited or apparently considered by the Examiner in his examination of the application that matured into the patent in suit.

18.

Plaintiffs claim that defendants are guilty of unfair competition alleging that defendants appropriated certain trade secrets obtained from plaintiffs while defendants or their predecessors were manufacturing the patented seals for the plaintiffs.

19.

During pretrial conference and discovery proceedings defendants attempted to ascertain from plaintiffs the trade secrets alleged to have been appropriated but were unable to obtain such information. During the trial officers of the plaintiff, The Franklin C. Wolfe Company, Inc., were asked what trade secrets were appropriated and they were unable to designate the trade secrets referred to in the complaint.

20.

No trade secrets of plaintiffs have been appropriated or misused by defendants.

21.

Plaintiffs have designated and adopted as a trademark for the patented seals the name "Lock-O-Seal."

22.

Defendants have named their product "Duoseal."

23.

The term "O-seal" had been used for many years by [41] parties other than those represented in this litigation exemplified by such names as "Aeroseal," "Bell-O-Seal," "Flex-O-Seal," "Auto-Seal," and many others. Plaintiffs do not have any priority to use the "O-seal" combination.

24.

Plaintiffs have produced one instance in which there has been confusion between plaintiffs' seal and defendants' seal but the seals in question are sold by the thousands to a multitude of manufacturers.

25.

Plaintiffs caused to be printed and published Exhibits 15 and 109 as advertisements of plaintiffs' products.

26.

In Exhibits 15 and 109 in advertising plaintiffs' "Gask-O-Seal" the statement is made "Patent No. 2,396,055."

27.

In said exhibits in connection with "Termin-O-Seal" the statement is made "Patent No. 2,396,-000."

28.

In said exhibits in advertising one-piece "Lock-O-Seals" the statement is made "Patent No. 2,396,005."

29.

In advertising "Termin-O-Seals" and one-piece "Lock-O-Seals" the statement is made "Patents Pending."

30.

Plaintiffs do not own Patent No. 2,396,000. This patent has nothing to do with any of the articles involved in this action and the use of this number was a misprint—the number intended being the number of the patent in suit, to-wit, No. 2,396,005.

31.

During the trial demand was made by defendants on the [42] plaintiffs to produce copies of their application which would have justified their use of the words "other patents pending" which demand was denied and no applications have been produced by the plaintiffs supporting or justifying their use of the words in this advertisement "other patents pending."

Conclusions of Law

1.

This Court has jurisdiction of the first cause of action charging patent infringement as the same is brought under the Patent Laws of the United States and the manufacture and sale by defendants of the articles alleged to have infringed oc-

curred within the Southern Judicial District of California.

2.

As plaintiffs have used the term "rubber-like doughnut shaped" ring in the patent this term must be strictly construed as against them.

3.

The rubber ring used by defendants is not a doughnut shaped ring and as a consequence, there is no infringement as to claim 1.

4.

Claim 1 of the patent in suit is invalid in law for lack of invention over the prior art.

5.

Claim 1 of the patent in suit is invalid in law as it is not invention to determine the amount of rubber required to fill the void between the flat metal washer and the shank of the fastener either mathematically or by trial and error method.

6.

This Court has jurisdiction of the second cause of action for unfair competition as the same purported to relate to [43] matters closely related to the acts of defendants charged to be infringements of plaintiffs' patent.

7.

Plaintiffs have not established that defendants have appropriated or mis-used any alleged trade secrets of the plaintiffs.

8.

In plaintiffs' and defendants' trademarks the word "seal" is descriptive and is in the public domain as applied to sealing devices of the character here involved.

9.

The term "O-seal" is not the exclusive property of the plaintiffs as the same has been used by others long prior to the plaintiffs and in some instances on sealing devices.

10.

Defendants' use of the trademark "Duoseal" does not unfairly compete with the plaintiffs' use of its trademarks or trade names "Lock-O-Seal," "Gask-O-Seal," "Termin-O-Seal" and the like.

11.

A single instance of confusion does not establish confusion within the meaning of the law.

12.

There has been no unfair competition as alleged in plaintiffs' complaint.

13.

There is no merit in defendants' counterclaim.

14.

Plaintiffs' complaint should be dismissed as to both causes of action stated therein.

15.

Defendants' counterclaim should be dismissed.

16.

Defendants' prayer for attorneys' fees should be denied.

Judgment

In accordance with the foregoing findings of fact and conclusions of law

It Is Hereby Ordered, Adjudged, and Decreed as follows:

1.

This Court has jurisdiction of the plaintiffs' first cause of action and second cause of action and of the defendants' counterclaim.

2.

That none of the defendants have infringed plaintiffs' Patent No. 2,396,005.

3.

That plaintiffs' Patent No. 2,396,005 is invalid in law as to claim 1 thereof for lack of invention.

4.

That none of the defendants have misused or misappropriated any alleged trade secrets of the plaintiffs.

5.

That defendants' use of the term "Duoseal" as a trademark applied to its product does not unfairly compete with plaintiffs' use of its trademarks on their products.

6.

That there is no merit in defendants' counterclaim.

7.

That plaintiffs' complaint be dismissed with prejudice as to both causes of action stated therein. [45]

8.

That defendants' counterclaim be dismissed with prejudice.

9.

That defendants recover their costs to be taxed in the amount of $382.41 Dollars.

Dated this 25th day of October, 1957.

/s/ HARRY C. WESTOVER,
United States District Judge.

Approved As to Form:

FULWIDER, MATTINGLY & HUNTLEY,
/s/ By JOHN M. LEE,
Attorneys for Plaintiffs. [46]

[Endorsed]: Filed and Entered October 25, 1957.

[Title of District Court and Cause.]

NOTICE OF APPEAL

To: Rubber Teck, Inc.; Rubber Teck Sales and Service Co.; Paul A. Karres; Otto R. Grass; Joe P. Kerley; and to their attorneys Fred H. Miller and Stanley A. Phipps:

Notice is hereby given that Rohr Aircraft Corporation and The Franklin C. Wolfe Company,

Inc., the plaintiffs above-named, hereby appeal to the United States Court of Appeals for the Ninth Circuit from the Final Judgment entered in this action on October 25, 1957.

FULWIDER, MATTINGLY & HUNTLEY,
ROBERT W. FULWIDER,
JOHN M. LEE,
/s/ By JOHN M. LEE,
Attorneys for the Plaintiffs-Appellants. [47]

Affidavit of Service by Mail Attached. [48]

[Endorsed]: Filed November 21, 1957.

[Title of District Court and Cause.]

CASH DEPOSIT IN LIEU OF COST BOND ON APPEAL

The sum of Two Hundred and Fifty Dollars ($250.00) deposited herewith pursuant to Rule 8(c), Local Rules, So. Dist., Calif., is owned by Plaintiffs Rohr Aircraft Corporation and The Franklin C. Wolfe Company, Inc., and shall secure payment of costs if the appeal of Plaintiffs is dismissed or the judgment appealed from is affirmed, or of such costs as the Appellate Court may award if the judgment is modified. This deposit is made pursuant and subject to the Rules 73(c) and 73(f) of the Federal Rules of Civil Procedure, and is hereby subjected to the provisions of Rule 8(c), Local Rules, So. Dist., Calif.

Dated: Los Angeles, California, November 21, 1957.

FULWIDER, MATTINGLY & HUNTLEY,
/s/ By WALTER P. HUNTLEY,
Attorneys for Plaintiffs-Appellants.

Duly Verified. [50]

Affidavit of Service by Mail Attached. [51]

[Endorsed]: Filed November 22, 1957.

[Title of District Court and Cause.]

NOTICE OF CROSS-APPEAL

To: Rohr Aircraft Corporation and The Franklin C. Wolfe Company, Inc., and their attorneys, Fulwider, Mattingly & Huntley, Robert W. Fulwider and John M. Lee:

Notice is hereby given that Rubber Teck, Inc., Rubber Teck Sales and Service Co., Paul A. Karres, Otto R. Grass, and Joe P. Kerley hereby cross-appeal to the United States Court of Appeals for the Ninth Circuit from the final judgment entered in this action on October 25, 1957.

STANLEY A. PHIPPS,
FRED H. MILLER,
/s/ By FRED H. MILLER,
Attorneys for Defendants-Appellants.

[Endorsed]: Filed November 25, 1957. [52]

[Title of District Court and Cause.]

ORDER EXTENDING TIME FOR DOCKETING APPEAL AND FILING RECORD THEREON

The plaintiffs-appellants Rohr Aircraft Corporation and The Franklin C. Wolfe Company, Inc., having on November 21, 1957, filed their Notice of Appeal from the judgment heretofore rendered in this action; now on application of said plaintiffs-appellants, the court being fully advised, and good cause appearing therefor:

It Is Hereby Ordered that the time in which plaintiffs-appellants herein may docket their appeal in this cause and file the record on appeal with the Clerk of the United States Court of Appeals for the Ninth Circuit be, and the same is hereby, extended to and including the 10th day of February, 1958. [53]

Dated at Los Angeles, California, this 17th day of December, 1957.

/s/ HARRY C. WESTOVER,
U. S. District Judge.

Presented by:

FULWIDER, MATTINGLY & HUNTLEY,
ROBERT W. FULWIDER,
JOHN M. LEE,
/s/ JOHN M. LEE,
Attorneys for Plaintiffs-Appellants.

Affidavit of Service by Mail Attached. [55]

[Endorsed]: Filed December 19, 1957.

[Title of District Court and Cause.]

ORDER EXTENDING TIME FOR DOCKETING CROSS-APPEAL AND FILING RECORD THEREON

The defendants-cross-appellants Rubber Teck, Inc., Rubber Teck Sales and Service Co., Paul A. Karres, Otto R. Grass, and Joe P. Kerley, having on November 25, 1957, filed their Notice of Cross-Appeal from the judgment heretofore rendered in this action; now on application of said defendants-cross-appellants, the Court being fully advised, and good cause appearing therefor:

It Is Hereby Ordered that the time in which defendants-cross-appellants herein may docket their cross-appeal in this cause and file the record on cross-appeal with the Clerk of the United States Court of Appeals for the Ninth Circuit be, and the same is hereby extended to and including the 10th day of February, 1958. [56]

Dated at Los Angeles, California, this 23rd day of December, 1957.

/s/ HARRY C. WESTOVER,
U. S. District Judge.

Presented by:

FRED H. MILLER,
STANLEY A. PHIPPS,
/s/ FRED H. MILLER,
Attorneys for Defendants-Cross-Appellants. [57]

Affidavit of Service by Mail Attached. [58]

[Endorsed]: Filed December 23, 1957.

[Title of District Court and Cause.]

CERTIFICATE BY THE CLERK

I, John A. Childress, Clerk of the above-entitled Court, hereby certify that the items listed below constitute the transcript of record on appeal to the United States Court of Appeals for the Ninth Circuit, in the above-entitled case:

A. The foregoing pages numbered 1 to 64, inclusive, containing the original:

Complaint.

Answer of Defendants.

Plaintiff Franklin C. Wolfe Co. Inc's. reply to Defendants' Counterclaim.

Memorandum.

Findings of Fact, Conclusions of Law and Judgment.

Notice of Appeal (Plaintiffs).

(Certified Copy). Cash Deposit in Lieu of Cost Bond on Appeal.

Notice of Cross-Appeal (Defendants)

Order extending time for docketing appeal and filing record thereon.

Order extending time for docketing cross-appeal and filing record thereon.

Designation of Record on Appeal.

Defendants-Cross-Appellants Designation of Record on Appeal.

B. Plaintiff's Exhibits Nos. 1 to 11 inclusive; 13, 15 to 31 inclusive; 35 to 44 inclusive; 46; 49; 54 to 68 inclusive; 77 to 83 inclusive; 85 to 92 inclusive; 94 to 112 inclusive.

Defendant's Exhibits A, B, C, D, U, V, Y, Z, AB, AC, AD, AF, AF-1, AF-2, AG, AH, AI, AK.

C. Eight volumes of Reporter's Official Transcript of Proceedings had on:

12/11/56; 12/12/56; 12/13/56; 12/17/56; 12/18/56; 12/19/56; 12/20/56; 12/21/56.

I further certify that my fee for preparing the foregoing record, amounting to $1.60 has been paid by appellant.

Dated: February 4, 1958.

[Seal] JOHN A. CHILDRESS,
Clerk.

/s/ By WM. A. WHITE,
Deputy Clerk.

In the United States District Court Southern District of California, Central Division

No. 18237-HW Civil

ROHR AIRCRAFT CORPORATION, et al.,
Plaintiffs,

vs.

RUBBER TECK, INC., et al., Defendants.

REPORTER'S TRANSCRIPT OF PROCEEDINGS

Los Angeles, California
Tuesday, December 11, 1956.

Honorable Harry C. Westover, Judge Presiding.

Appearances: For the Plaintiffs: Fulwider, Mattingly & Huntley, by Robert W. Fulwider, Esq., and John M. Lee, Esq., 5225 Wilshire Boulevard, Los Angeles, California. For the Defendants: Fred H. Miller, Esq., and Stanley A. Phipps, Esq., 108 West Sixth Street, Los Angeles, California. For the Defendant Joe P. Kerley: Alfred D. Williams, Esq. [1]*

* * * * *

Mr. Fulwider: I have here Exhibits 23 and 28. Does [3] your Honor have an extra soft copy of the patent?

The Court: No, I don't have a soft copy. Have you got a soft copy?

Mr. Fulwider: Here is Exhibit 23, the patent in suit, previously marked for identification, and I call your attention to Exhibit 8.

The Court: Is there any objection to having that in evidence?

Mr. Miller: No.

The Court: It may be admitted in evidence.

Mr. Miller: I just want to make sure which exhibits he is referring to. 23 is the patent in suit. No objection to that. As I recall it, there were about four or five exhibits 8, all marked Exhibit 8.

Mr. Fulwider: I believe that is correct.

Mr. Miller: Will you introduce all of them?

Mr. Fulwider: All right. At this time we would like to introduce both Exhibit 23, the patent in suit, and the several seals which are marked Exhibit 8,

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* Page numbers appearing at top of page of Reporter's Transcript of Record.

one of which is attached to this piece of paper I have here in my hand.

The Court: They may be admitted in evidence.

The Clerk: Exhibits 8 and 23. [4]

(The exhibits referred to were received in evidence and marked as Plaintiffs' Exhibits 8 and 23.)

[See Exhibit No. 23 in Book of Exhibits.]

* * * * *

Mr. Fulwider: We have here an example of the sealing device illustrated in the patent that is made identically as shown in Fig. 2 that I would like to have marked at this time as Plaintiffs' Exhibit 81. Exhibit 81 is manufactured exactly as illustrated in the drawing in the patent in suit.

The Court: It may be received in evidence.

The Clerk: Exhibit 81. [8]

(The exhibit referred to was received in evidence and marked as Plaintiffs' Exhibit No. 81.)

Mr. Miller: This is represented to the court as being a sample of what is made in accordance with the patent?

Mr. Fulwider: That's right, made by the plaintiff, Franklin C. Wolfe Company.

Mr. Miller: At the present time? Is it current?

Mr. Fulwider: Yes, and has been for some time. The plaintiff Wolfe Company is also making, and has since 1953, another form of seal under the patent, which originally was marketed as a one-piece Lock-O-Seal, and is now being marketed as a Stat-O-Seal.

I would like to have that marked for identification

as Exhibit 82, and after Mr. Miller has a chance to look at it, it will be offered in evidence.

Mr. Miller: I have no objection to his marking it for identification, but I do object to the introduction of this exhibit. This is not in conformity with the patent in suit.

The Court: We will mark it for identification only, if you have any objection.

The Clerk: 82 for identification. [9]

(The exhibit referred to was marked as Plaintiffs' Exhibit No. 82 for identification.)

* * * * *

FOSTER M. HAGMANN

called as a witness herein by and on behalf of the plaintiffs, having been first duly sworn, was examined and testified as follows:

The Clerk: Will you state your name, please? [36]

The Witness: Foster M. Hagmann.

Direct Examination

Q. (By Mr. Fulwider): Will you state your name? A. Foster M. Hagmann.

Q. By whom are you employed, Mr. Hagmann?

A. Franklin C. Wolfe Company.

Q. That is one of the plaintiffs in this action?

A. Yes, sir.

Q. How long have you been with the Wolfe Company? A. Since late 1946 or early '47.

Q. What is your position with the Wolfe Company?

A. I am vice president and director of sales.

(Testimony of Foster M. Hagmann.)

Q. Have you continuously held the job of being director of sales? A. Yes, I have.

Q. What are your duties in connection with this position, very briefly?

A. Well, I pass on the advertising. I direct the sales activities. At one time I was the sales department.

Q. You were the sales department to begin with?

A. Yes, sir.

Q. Does the Wolfe Company sell all over the United States? [37] A. Yes.

Q. Do your activities include keeping track of sales throughout the country? A. Yes, sir.

Q. Are you generally familiar with the products sold by the Wolfe Company? A. Yes, sir.

Q. Are you generally familiar, at least, with the fastener sealing devices that are offered to the trade?

A. I think my knowledge is fairly extensive, yes.

Q. One of the Wolfe Company products is by the name of Lock-O-Seal, is it not?

A. That is correct.

Q. And Lock-O-Seal is this item, Exhibit 81. Is Exhibit 81 representative of the product sold as Lock-O-Seal? A. Yes, sir.

Q. Does the Wolfe Company also sell a product by the name Stat-O-Seal? A. Yes, sir.

Mr. Miller: I object to that because that is 82 and it has no part in this case.

The Court: Overruled.

Q. (By Mr. Fulwider): I show you Exhibit 82. Will you tell me whether or not that is representative

(Testimony of Foster M. Hagmann.)

of the seals or sealing devices marketed by you as Stat-O-Seal? [38] A. Yes, sir.

Mr. Fulwider: At this time we would like to offer Exhibit 82 in evidence, your Honor, as representative of one form of sealing device manufactured under the patent.

Mr. Miller: I object to that. There is no foundation laid for that.

The Court: Overruled. It may be admitted in evidence.

The Clerk: Exhibit 82.

(The exhibit referred to was received in evidence and marked as Plaintiffs' Exhibit No. 82.)

Mr. Fulwider: 81, I believe, was previously in evidence.

The Court: Yes, 81 is in evidence and 8 is in evidence and 23.

Q. (By Mr. Fulwider): How long has the Wolfe Company sold the product Lock-O-Seal similar to Exhibit 81? A. Since some time in 1947.

Q. Where is your principal market for Lock-O-Seals?

A. Primarily in the airframe industry and the components industry that feeds the airplane.

Q. The aircraft industry generally, could we say?

A. Yes, sir.

Q. Can you tell us a little bit about the sealing problems of the aircraft industry with particular reference [39] to the sealing of fasteners?

A. Yes. It has always—when I first got into the

(Testimony of Foster M. Hagmann.)

business of selling these things, it was presented as a very severe problem for the industry. They were always very loath to go from the wet side to the dry side of anything, a design with a hole or a bolt or anything like that, because they had no adequate means of sealing the fastener after they had put the hole through it. It caused quite a weight penalty to be paid. Weight, of course, is very important in aircraft. If you have to lift too much airplane, you don't have anything to carry in the way of a useful load.

So with the advent of a method of sealing where it could be sealed, and sealed more or less permanently, the aircraft designer was given a very valuable tool. He could lighten up his structure. He could also be sure that in the event he fastened anything to the wall of the tank, it was going to be permanently sealed so there would be no dangerous or explosive condition.

Q. Is this problem of leakage of fuel a particularly acute problem in the industry?

A. It has always been an acute problem, and particularly with the advent of the so-called integral tank, where they did not use the bag inside, and they merely sealed up the structure and poured the wings full of gasoline, high octane gasoline. [40]

Q. Was it a problem prior to the advent of the integral tank?

A. Yes. The problem of sealing seems to have always been with the industry. They have always complained. Previously, when we first started pro-

(Testimony of Foster M. Hagmann.)

ducing these, they complained there had never been a good way of sealing them.

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The Witness: I might add a little bit more to that and say that in some cases it was an impossibility to seal under those circumstances and really seal.

Q. (By Mr. Fulwider): Can you give us an instance of the extent to which the industry was plagued with leakage in the early days?

A. Yes. It came to me from people who had worked with the integral tank that there was some question as to whether certain airplanes would ever be manufactured simply because they could not seal them. [41]

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Q. (By Mr. Fulwider): Mr. Hagmann, would you explain briefly for the court how the Lock-O-Seal and the Stat-O-Seal solved this sealing problem of leakage around fasteners?

A. Well, I am not too technically inclined, perhaps, and I think the experts will have to give a better explanation than this, but essentially this ring was brought into sealing contact in such a way that even in the event the structure was flexible, the ring, the rubber would sort of follow the line of deflection so that you always had sealing contact even if the fastener was moved a little bit.

Q. In other words, the rubber hugs the shank of the shaft and the walls generally of the cavity?

A. Yes, and sets up what they call a continuous

(Testimony of Foster M. Hagmann.)

business of selling these things, it was presented as a very severe problem for the industry. They were always very loath to go from the wet side to the dry side of anything, a design with a hole or a bolt or anything like that, because they had no adequate means of sealing the fastener after they had put the hole through it. It caused quite a weight penalty to be paid. Weight, of course, is very important in aircraft. If you have to lift too much airplane, you don't have anything to carry in the way of a useful load.

So with the advent of a method of sealing where it could be sealed, and sealed more or less permanently, the aircraft designer was given a very valuable tool. He could lighten up his structure. He could also be sure that in the event he fastened anything to the wall of the tank, it was going to be permanently sealed so there would be no dangerous or explosive condition.

Q. Is this problem of leakage of fuel a particularly acute problem in the industry?

A. It has always been an acute problem, and particularly with the advent of the so-called integral tank, where they did not use the bag inside, and they merely sealed up the structure and poured the wings full of gasoline, high octane gasoline. [40]

Q. Was it a problem prior to the advent of the integral tank?

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(Testimony of Foster M. Hagmann.)

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A. Yes, and sets up what they call a continuous

(Testimony of Foster M. Hagmann.)

line contact in the leakage paths that are present in the fastener. [43]

Q. Would you touch briefly on the disadvantages of having rubber extruded from a cavity when the bolt is cinched down? A. Having what?

Q. Having the rubber extrude, be forced outwardly through the crevices.

A. Yes. In the first place, the aircraft structure carries a tremendous load. Each fastener is what they call stressed almost to the ultimate in order to gain the weight saving that they want. If the rubber extrudes out from under the shank or under the head, I should say, of the bolt, it causes the fastener to become loose and it keeps flowing out. Then your fastener gets loose, and when the rubber is extruded far enough, then it will leak. It had been tried, a certain large airplane had seals of this type on it, where the thing wasn't metal-to-metal, so to speak, and they had a great deal of a problem with it.

As a matter of fact, it was said that at one time it was necessary, if you went under the wing when it was loaded with gas, to carry an umbrella. It was actually that bad.

The Court: Let's go back a minute. You say at one time they did try putting a rubber ring inside of a steel ring so that the rubber extruded, is that what you are trying to tell me? [44]

The Witness: No, your Honor. I meant they had tried a flat punch washer, just like an ordinary washer would be, only of rubber, and put it under the bolt head like a washer would be.

(Testimony of Foster M. Hagmann.)

The Court: They tried putting the rubber washer underneath the bolt head, is that what you are trying to tell me?

The Witness: Yes, and then found someone made one that was a metal washer and it had rubber on the face of the washer, or what would be the under part of the washer, so that the metal of the washer would be in contact with the head of the bolt.

The Court: Then you mean to tell me the rubber washer was sealed to the underside of the metal washer?

The Witness: Yes, it was attached.

The Court: Attached. Sealed or vulcanized or something.

The Witness: Well, I think it was vulcanized, yes, or glued or bonded by heat and pressure, I suppose you would call it.

The Court: My understanding is your testimony is prior to this particular invention someone had used a metal washer in which they had sealed a rubber washer underneath.

The Witness: Not prior to the advent of the Lock-O-Seal. I should clarify it. It was actually an attempt to [45] get around the Lock-O-Seal.

The Court: That wasn't your testimony. Your testimony was someone had tried it, and I got the impression it was before the invention here.

The Witness: No, no, it wasn't before the invention. It was after the invention.

The Court: It was after the invention?

The Witness: Yes, the Rohr invention, after that.

(Testimony of Foster M. Hagmann.)

The Court: All right.

The Witness: I'm sorry.

Q. (By Mr. Fulwider): Now, I am a little unclear. That is the first I heard of this. As I understand the testimony, you had some rubber on the flat side of a flat metal washer, is that what you said?

A. That's right, yes.

Q. Then they cinched it down and the rubber tended to square out?

A. The rubber would extrude out, and I think our test showed the bolt would lose 50 per cent——

The Court: When did you first see these washers, the rubber vulcanized on the underside?

The Witness: I think it would be about '48 or '49. I think I could——

The Court: Did you ever see any of them used?

The Witness: Yes, and we replaced them. [46] We ultimately sold a great many Lock-O-Seals to replace them.

The Court: I am not interested in that part of it. When did you first notice that the rubber extruded?

The Witness: Well, you mean when did I first see it extruded?

The Court: Yes, you said it did. Are you testifying to something you saw or something somebody told you?

The Witness: It was common knowledge among the engineers who worked with it, and they told me that it did, and I think that subesquently we had samples of them and did see that they extruded.

The Court: When did you first have knowledge

(Testimony of Foster M. Hagmann.)

of the metal washer with a rubber washer attached or vulcanized to one side?

The Witness: I would say it was about 1948, your Honor. I don't know that there is anything in the records that would show it.

The Court: When did you first know that it was unsatisfactory because the rubber washer would squash out?

The Witness: Well, shortly after I saw it, because the engineers told me it was happening, not our engineers, but the engineers who used them. As a matter of fact, it was so unsatisfactory that they finally modified the design. I might add this, if it is relevant, that that company now does not use those. They have gone completely to our Lock-O-Seals [47] and Stat-O-Seals.

The rubber being unconfined—unconfined rubber does not make a good seal because it has a tendency to fatigue and finally it doesn't resist the deformation.

The Court: All right.

Q. (By Mr. Fulwider): What was the name of the company that made those washers that you have been mentioning?

A. It was the Los Angeles Standard Rubber Company.

Q. Your first connection with the seal business was in 1947, was it, or 1946?

A. Yes. I might add that I have done some flying of airplanes as early as 1919 and 1920, and I actually did do a little piloting around 1925, and had been

(Testimony of Foster M. Hagmann.)

around airports like all fellows of my age at that time, and you could always see the oil dripping out, you know. That was always the problem.

Q. These washers made by—what was it?

A. Los Angeles Standard Rubber.

Q. Los Angeles Standard Rubber Company, when did you first see them with respect to the time that you started your employment with the Wolfe Company?

A. It was subsequent to that. I can't be too sure, but I think it was around 1948.

Q. Could you summarize by telling us generally the advantages, if any, of the Lock-O-Seal type of washer or sealing [48] device, shall we call it?

A. Well, in spite of the fact that it was a two-piece seal, it was not too difficult to assemble. It was so simple with the Lock-O-Seal to just stick it on the bolt and you knew you had a seal. This is the important thing. You had a seal every time.

Of all the numbers of them that we have sold and that have been used, the u.r.s or unsatisfactory reports, as they call them, in the ships in service have been almost nil, and we always made it a point to call them up, because we felt responsible for the performance of these things. Whenever we got an unsatisfactory report, we insisted with the customer on following it and almost always it was either a misapplication—that is, they put it where it didn't belong, under temperatures that were too great for that particular type of rubber, or they would do things like trying to—well, they tried to put another

(Testimony of Foster M. Hagmann.)

type of rubber in or they would put an outside piece of rubber in. They would do a lot of things, you know, because they hadn't seen them before.

Q. I have been thoroughly educated. Are the Lock-O-Seals replaceable or, rather, re-usable?

A. Yes, they are re-used.

Q. How about tightening them up? Do you need any special tools, or put it this way, is it possible in many instances to tighten them by hand so you get a good effective [49] seal?

A. Yes. At one time in the Navy Laboratory, we tightened up one finger tight and brought it up to 5,000 pounds per square inch pressure and there was no leakage at all.

Q. That was a Lock-O-Seal?

A. That was a Lock-O-Seal, yes, sir.

Q. You mentioned this matter of installation. Were there complaints or, rather, were there requests from about the early stages of the sales by the Wolfe Company of Lock-O-Seals to try and develop a one-piece sealing device or a one-piece Lock-O-Seal?

A. Yes, there had been. The first time it had been asked for was at the time when we were having a meeting with Douglas Aircraft, and they raised an objection to the two pieces and said, "Will you make a one-piece?" That is the first time it had been mentioned.

The Court: When was that?

The Witness: This was in 19—I believe it was the early part of 1947.

(Testimony of Foster M. Hagmann.)

Q. (By Mr. Fulwider): Did you from time to time get similar requests from some of your other customers saying, "If you can have these two pieces fastened together, we would like to have it"?

A. Yes. There were lots of requests for it. It was common knowledge. Certainly we recognized the fact that one [50] piece was going to be a little handier than two pieces. [51]

Q. Did you get Wright Field or armed services approval for the Lock-O-Seal?

A. Yes, we did.

Q. And subsequently got it for the Stat-O-Seal?

A. Yes, we had approval.

Q. Tell me very briefly for the record the names of some of the major aircraft companies who have been large purchasers of Lock-O-Seals.

A. Boeing Aircraft Company, Douglas Aircraft, all of their divisions, North American Aviation, Chance-Vaught Aircraft, Grumman Aircraft, Republic, Glenn Martin Company, Radioplane, Marquardt Aircraft Company—just about everyone that was in the business then has bought them and most of them are still buying Lock-O-Seals in some quantities.

Q. I didn't hear the last part of it.

A. Most of them are still buying even Lock-O-Seals in some quantities.

Q. Does that mean today they are buying both Lock-O-Seals and Stat-O-Seals?

A. Yes, sir.

Q. Did you have prepared some figures outlin-

(Testimony of Foster M. Hagmann.)

ing or showing the sales of Lock-O-Seals and Stat-O-Seals over a period of years?

A. Yes, I did. [53]

Q. I call your attention to Exhibit 78, which has two parts. The first sheet says Sale of Lock-O-Seals, Month and Year, August 31, 1956, and the second sheet has Sale of Stat-O-Seals, Month and Year, August 31, 1956. This has been previously marked as Exhibit 78. Were those figures prepared at your request by your bookkeeping department? A. Yes, they were.

Mr. Miller: I think there is no proper foundation laid for this.

Mr. Fulwider: I am not through yet.

Q. Are the records from which those figures were made the company records?

A. Yes, sir.

Q. Kept in the usual course of business?

A. Yes, sir.

Q. And have you examined the figures on the two sheets of Exhibit 78? A. Yes, sir.

Q. Can you tell me whether or not they appear to be correct?

A. They appear to be correct, yes, sir. I might say that we took it dollarwise and multiplied it by 20. In other words, we chose a median figure of 5 cents each.

Q. I believe your Exhibit 78 is in dollars.

A. Yes, sir. [54]

Q. And that stops at August 31, 1956?

A. Yes, sir.

(Testimony of Foster M. Hagmann.)

Mr. Fulwider: I would like to offer this in evidence with that foundation, your Honor.

Mr. Miller: I don't think there is any proper foundation as far as he is concerned. It is merely hearsay prepared by somebody else.

The Court: Under his supervision.

Mr. Miller: I didn't understand it that way.

The Court: Do you want him to bring in the books and records?

Mr. Miller: No. I want to know what he knows about the accuracy of these figures.

The Court: Overruled. It may be received in evidence.

The Clerk: Exhibit 78.

(The exhibit referred to was received in evidence and marked as Plaintiffs' Exhibit No. 78.)

[See Book of Exhibits.]

Q. (By Mr. Fulwider): Did you subsequently project or complete the column for 1956 to arrive at a total up to date and then project it to the end of the year, figures which you subsequently had prepared under your supervision?

A. Yes, sir, we did.

Q. Let me ask you this. You also prepared for me figures of the estimated number or numbers of Lock-O-Seals and [55] Stat-O-Seals sold, did you not? A. Yes, sir.

Q. And that was based on the dollar figures in Exhibit 78? A. Yes, sir.

Q. Plus the additional figures since August?

(Testimony of Foster M. Hagmann.)

A. Yes, sir.

Q. What was your method of arriving at these figures on the numbers of seals sold?

A. We chose a figure of 5 cents each, which is actually very conservative, because the smaller sizes were the larger sellers, and they sold for considerably less than 5 cents apiece in great quantities.

Q. I have here a chart marked for identification as Exhibit 83. Was that chart prepared under your supervision, Mr. Hagmann?

A. Yes, sir.

Q. Will you explain to me—first, there are three curves or graphs on this chart, one starting at the bottom in green, the year 1948, a red line starting 1952, and a bluish, I guess it is, line starting 1953. Will you explain to the court the significance of those three charts? Can you see it from where you are? A. Yes, I can see it.

Q. You can come down here, if you want to. [56]

A. It is combined to show the number of Lock-O-Seals and the number of Stat-O-Seals that have been sold. You will note that, I believe it is the green one, is the Lock-O-Seal starting out in 1948, and the tough sledding I referred to is reflected in the line. Then at the beginning of 1949, it started climbing very rapidly. Then in the lower right-hand corner——

Q. That is the blue curve?

A. Yes, beginning in 1953, it shows the growth

(Testimony of Foster M. Hagmann.)

of the sales of Stat-O-Seals. The red line above shows the combined totals of pieces sold.

Q. Now, I believe the chart basis are in millions, are they? A. Yes.

Q. So that the total of Lock-O-Seals sold between 1948 and 1956, the end of 1956, is 60 million, is that correct?

A. That is 60 million, that's correct.

The Court: Is that the sale per year or the total?

Mr. Fulwider: That is the cumulative number, your Honor.

The Witness: The cumulative total.

The Court: Cumulative?

The Witness: Yes.

Q. (By Mr. Fulwider): I believe this blue line graph beginning in 1953 winds up in 1956 with what? About 12½— [57] what would you say that figure is?

A. Roughly 12½ million, yes.

Q. And the red line winds up with what here in 1956?

A. About, I should say, about between 70 and 73 million.

Q. You say that you took, in order to arrive at those figures, an average of 5 cents per seal for all sizes? A. That's right.

Q. Is that a conservative estimate?

A. Yes. The average, I think would be somewhat below that figure, because in large quantities they sell for as little as about 3⅓ cents each. I

(Testimony of Foster M. Hagmann.)

might add one thing, and that is that it was a very inexpensive method of accomplishing this thing. It was so simple that the engineers used to kick themselves because they hadn't thought of it first, it was so easy.

Mr. Fulwider: I would like to offer the chart in evidence, your Honor, as illustrative of the witness' testimony and the figures derived from Exhibit 78.

The Court: It may be received in evidence.

The Clerk: Exhibit 83.

(The exhibit referred to was received in evidence and marked as Plaintiffs' Exhibit No. 83.)

Mr. Fulwider: That's all, your Honor, of this witness. [58]

Cross Examination

Q. (By Mr. Miller): You started with the Wolfe Company in the latter part of 1946 or the early part of 1947, is that correct?

A. Yes, sir.

Q. Were they manufacturing or having anything to do with Lock-O-Seals at that time?

A. I believe that it was first presented to us just about that time, yes. I think it was the latter part of 1946.

Q. At the time that you entered Wolfe's employment? A. Yes, sir.

Q. Did you keep any records of sales during the year 1947?

A. I believe that there are some records, yes.

(Testimony of Foster M. Hagmann.)

Of course, the royalty figures give a good key to what the sales were.

Q. Do you have the 1947 figures on the exhibit that is before you there?

A. No. The figures were so negligible that it was not considered.

The Court: Let's have this marked. Why did you start with 1950?

The Witness: I believe it starts in 1948, your Honor.

The Court: But this one here—— [59]

The Clerk: This is 78.

The Court: In Exhibit 78 you started with 1950.

Mr. Fulwider: I should explain to the court, but I forgot. I'm sorry. At the time we filed Exhibit 78 in August we didn't have the figures then for 1949 available, and so what we did was subsequent to that went back and got them.

The Court: Have you got them now?

Mr. Fulwider: Yes.

The Court: Suppose they be added to this.

Mr. Fulwider: I have a poor print here. We will have the originals, which are more readily available to put in, so suppose we mark this—no, not that.

The Court: That can be marked 78-A.

Mr. Fulwider: What I have done here is to have them added right on our copy of it. Make it 78-A.

The Court: 78-A, and that will take care of the years prior to 1950.

(Testimony of Foster M. Hagmann.)

Mr. Fulwider: And then we will substitute a clearer copy afterwards.

The Clerk: Is this in evidence?

The Court: In evidence, yes.

The Clerk: Exhibit 78-A.

(The exhibit referred to was received in evidence and marked as Plaintiffs' Exhibit No. 78-A.)

[See Book of Exhibits.]

Q. (By Mr. Miller): What I want to know is this. Why [60] did you start in 1948 and not in 1947?

A. Well, the figures—they were so few of them sold in 1947. The figures were very low. They would not have materially affected the totals.

Q. Did you make any effort to sell these during 1947? A. Yes.

Q. Did you approach the airplane companies?

A. Yes.

Q. During that period? A. Yes, sir.

Q. What was the difficulty about selling them in 1947?

A. For one thing, they weren't doing very much design work. You remember that right after the war the airplane industry went down almost flat. We weren't going to have any more war.

Q. During 1947, didn't you have planes with leaky tanks?

A. I presume there were, yes.

Q. Did you undertake to sell these to fix up the leaks in 1947?

(Testimony of Foster M. Hagmann.)

A. It isn't quite so easy to get on an older airplane. They are very loath to make any changes, any blueprint changes. Nor in the matter of commercial airplanes, they do not put a part on an airplane unless it is approved by the manufacturer. The manufacturer seems to take the position [61] that once it is out, they don't want to go through a lot of blueprint changes. They are very costly. Just to take and put one Lock-O-Seal on an airplane might cost several thousand dollars and more in print changes.

The Court: According to 78-A, your first sale is in November and December, 1948 of $181.16. Up to that time sales hadn't amounted to very much, had they?

The Witness: No.

Mr. Fulwider: In 1948 that is the total. We didn't do it by the month in 1948.

The Court: You mean to say the total for 1948 is $181.16?

Mr. Fulwider: That is my understanding, your Honor.

The Witness: That's right.

The Court: And in 1947 it was even less than that?

Mr. Fulwider: Yes. I guess not much less.

The Court: You will agree it is negligible?

Mr. Fulwider: Yes. That is why we didn't show it here.

The Court: All right.

Q. (By Mr. Miller): Beginning in 1948, were

(Testimony of Foster M. Hagmann.)

the airplane companies, as you call them, starting to design? A. Yes.

Q. New planes, and these were sold for use on these new [62] planes if the manufacturer decided to adopt the Lock-O-Seal, is that it?

A. The first sales of any size were made for use on drop tanks, to seal the attaching bolts that attached the hook that in turn fastened the drop tank onto the wing tip.

Q. Will you explain to the court and also to me, please, just exactly what is a drop tank?

A. A drop tank is one that is usually out at the tips of the wings, and sometimes carried under the fuselage, with additional fuel. The lines run down into them. It adds a great deal of range to an airplane.

The Court: Don't you mean it is a tank that can be dropped after it is drained dry?

The Witness: Yes, sir.

The Court: Isn't that what you are talking about?

The Witness: Yes.

Q. (By Mr. Miller): Was it the introduction of these drop tanks that caused this rise in sales beginning along about 1949 and 1950?

A. It had some effect, but the increased activity in the airframe business is reflected in these sales, too. The drop tanks were a very important part of it, but they were not the whole story.

Q. Are those the important factors to explain

(Testimony of Foster M. Hagmann.)

this rise in 1949 and 1950, the innovation of drop tanks and change in [63] design?

A. I don't know that I understand the question, counsellor.

A. I will let you do the talking. What is your explanation of this rise in sales beginning in 1949 and 1950, whereas during 1947 and 1948 your sales were pretty small?

A. There was a general increased activity in the airframe business and that, of course, was reflected in greater sales because they were now beginning to build airplanes again. They had gone through the design stages. They had called out the Lock-O-Seals on the planes and also on the drop tanks, and then when they got into production, we began to make some sales.

Q. Prior to your entering the employ of the Wolfe Company, what was your business?

A. I had been in the selling business.

Q. Selling what?

A. I had been associated with the publishing business, with the Saturday Evening Post, as a subcontractor of circulation.

Q. Had you had any connection with the sealing business or rubber business?

A. Only, as the judge would say, watering the lawn, or something like that having washers. I, of course, drove automobiles and they had leaking problems, too, as you know. [64]

Q. What was the occasion of this development by the Los Angeles Standard Rubber to make up

(Testimony of Foster M. Hagmann.)

a washer with rubber on one side of the washer, which I understood took place about 1948, was it?

A. To the best of my recollection, yes. It was such a poor seal that we didn't pay much attention to it. If they sold one, then it meant a sale for us, because we would go along behind them and give them a seal that would work.

Q. What I am after is why was that development ever made when Lock-O-Seals were available through your company in 1948?

A. It was evident to the engineers in the airframe business that this Lock-O-Seal was going to be a very great commercial success, and the obvious thing for anyone to do is that they wanted to get around the Lock-O-Seal, and the obvious thing would be to try to make a Chinese copy of it, as they call it.

The Court: You know, Lock-O-Seal wasn't a success in 1948. You only had $181.16 in 1948. Why did you make statements like that, because even in 1949 you only had $16,000 worth of sales.

The Witness: Your Honor, you see, it is about as I said. About 18 to 36 months, as a general rule, from the date——

The Court: But you are trying to tell me what the [65] engineers thought, that this was going to be such a howling success. How do you know what the engineers thought? You had only sold a few hundred of them.

The Witness: Let me explain it this way. The sale is actually made, intangibly of course, the day

(Testimony of Foster M. Hagmann.)

that the engineers put it on the blueprint and the engineer says, "We will seal this bolt with this." The sale is actually made then. He has bought the idea, but he can't buy the part until they start actually building the airplane.

The Court: The engineers might have designed it that way, but you didn't sell anything until 1948 to amount to anything, didn't sell enough to count. In 1949 you started out with 16,000. 16,000 doesn't indicate to me an invention is going to be a howling success.

The Witness: It showed the means of the licking of the problem. The engineers had been familiar with the problem for many years, and when they saw them and ran them through tests, and so forth, and saw what they would do, they immediately started using them.

The Court: I don't mind you testifying to what you know, but when you try to tell me this is going to be a howling success in 1948 and 1949, I don't know why you say that, on what you base your information.

The Witness: Well, of course, there are many thousands and thousands of fasteners in an airplane. [66]

The Court: Yes, and they had been using them in 1947 and 1948.

The Witness: They weren't building many airplanes in that time, any airplanes to speak of.

The Court: They used them all during the war. They had thousands of airplanes during the war.

(Testimony of Foster M. Hagmann.)

They used fasteners of some kind.

The Witness: I don't believe Rohr had done very much in offering them for sale.

The Court: I am not talking about Rohr.

The Witness: They were the only ones that were using them then.

The Court: I am talking about the industry generally. If they had to use fasteners, they used fasteners all the time, didn't they?

The Witness: Yes, they did, but wherever I went, they didn't know anything about the Lock-O-Seals.

The Court: Don't give me your conclusions unless you have some basis on which you base your conclusions, because I don't doubt that this has been a very big success. I don't doubt that at all, but I doubt very much if anybody in 1948 or 1949, from the sales you made, could have prophesied this was going to be a great success. The inventor may have thought it would be a great success.

The Witness: The inventor was very excited about it [67] because it had solved a very tough problem, but I can only say, your Honor, in calling on the airframe industry, as we call it, throughout the United States and talking to literally hundreds of engineers, it was with quite a lot of unanimity that they pronounced this as the answer to one of their problems. Many of them said, "We wish we could have developed it ourselves." So I knew it was going to be a success. It had to be a success from the reports we got from the engineers.

(Testimony of Foster M. Hagmann.)

The Court: If I remember correctly, the inventor of the zipper knew it was going to be a great success, but nobody would take it up until a long time later, isn't that right?

The Witness: I don't know about that. I am not familiar with that. It certainly is a success now.

The Court: The inventor is sold on these things, he knows it is going to be a success, but there is only one way to prove success and that is use.

The Witness: That is true.

The Court: So when you say in 1948 everybody knew this was going to be a great success, I think it is rather speculative.

Well, it's 12:00 o'clock. Maybe this is a good place to break for the lunch period.

I might say for the benefit of counsel who have not [68] been in this court before, that we quit promptly at 12:00 and we come back promptly at 2:00 o'clock, and we will quit at 4:00 o'clock in the afternoon.

Court will now stand in recess until 2:00 o'clock.

(A recess was taken to 2:00 p.m.) [69]

Tuesday, December 11, 1956, 2:00 P.M.

The Court: You may proceed.

FOSTER M. HAGMANN

the witness on the stand at the time of recess, having been heretofore duly sworn, was examined and testified further as follows:

Cross Examination—(Continued)

Q. (By Mr. Miller): During the year 1948 to what extent did you personally call on the trade for these Lock-O-Seals? A. To a great extent.

The Court: "Great" doesn't mean anything. To what extent?

The Witness: I called on all of the local airframe companies and those in San Diego, and I believe I made one trip to the East during that time calling on McDonnell and other aircraft companies in the East.

Q. (By Mr. Miller): How many different sizes of Lock-O-Seals did you have or were you carrying to sell during the year 1948?

A. I don't remember the exact number of sizes.

Q. Was it about three?

A. More than that.

Q. How many more, would you say? 20? [70]

A. I would say about 15 or 20, probably.

Q. During that period of time, was the Rubber Teck Company manufacturing the Lock-O-Seals that you were selling?

A. I believe they were, yes.

Q. Was there any occasion to develop any additional sizes during that year?

(Testimony of Foster M. Hagmann.)

A. I don't remember.

Q. Do you recall whether or not the Rubber Teck Company during that year developed some new molds for making the Lock-O-Seals?

A. I don't recall specifically, no.

Q. Do you recall making any payment to the Rubber Teck Company for the development of new molds? A. No.

Q. I couldn't hear you. A. No.

Mr. Miller: That's all. Thank you.

Mr. Fulwider: I have a couple of questions I would like to ask.

Redirect Examination

Q. (By Mr. Fulwider): Mr. Hagmann, I believe you mentioned this morning that there was a lag of something over a year normally from the time that planes were designed or, I believe, as you put [71] it, put on paper and actually got into production, is that right? A. That's right, yes.

Q. Will you amplify perhaps a little more the sales procedure, and particularly in the early years, 1947 and 1948, when the Wolfe Company was just starting into the merchandising of Lock-O-Seals, as to how you sell these and the time involved?

A. Well, the initial contact is made——

Q. Speak up, will you, please?

A. The initial contact is usually made with the engineer, and he, shall we say in the selling vernacular, is sold the idea that it is good, or he sees it and buys the idea that it is good, and then he

(Testimony of Foster M. Hagmann.)

waits for an application. Airplanes are built in bits and pieces, of course, and sometimes the sealing end of it comes late in the game, and sometimes early in the game, usually toward the latter part of the design. Then it is put on the blueprint, called out by the size and the number et cetera. Then no procurement is made until such time as the bill of materials is made for the airplane, that is to say, they list everything that they are going to use, and then they buy it just a month or two, usually, before they start using them.

Q. Then do I understand correctly that there was a considerable lag between the time that you, as you say, sold [72] the engineers or presented the problem to the engineers, and you actually delivered the seals and invoiced them?

A. That is correct, yes.

Q. In 1947 and 1948, say from 1947 into 1949, about what would that average lag be between your call on the engineers to educate them on your product, and when you might expect orders?

A. It would be in the order of 18 months to two years, as a rule.

Q. So that the selling activity that you engaged in in the latter part of 1947 came to fruition, so to speak, in late 1948 or early 1949?

A. That's right.

Q. Is that true of your selling activities in 1948, that the bulk of dollars in those activities would have come in in 1949 and possibly would have been as late as 1950? A. Yes, sir.

(Testimony of Foster M. Hagmann.)

Q. Was it necessary during the early years, 1947 and 1948, and we will say 1949, to do much educating with the engineers of the various companies upon whom you called? A. Yes, it was.

The Court: May I ask this witness a question?

Mr. Fulwider: Yes.

The Court: You talked to the engineers of the airplane companies. Did you ever talk to the draftsmen? [73]

The Witness: I think you would say the draftsmen are generally considered to be engineers, my understanding of engineers.

The Court: Isn't it true the first thing that happens in the building of an airplane is that you draw some plans, you draft the plans, and you don't start building until you have your blueprints?

The Witness: That is correct.

The Court: Is it true that when you are building a blueprint or you draw a blueprint, the blueprint would specify this kind of washer?

The Witness: Yes, sir. It would call it out by the name and say where they would be and how many of them.

The Court: In 1947, for instance, how many blueprints did you see in which these washers were specified?

The Witness: I don't believe I could tell you that, your Honor. There were lots of them I looked at. Actually, it was the latter part of 1947, before we really had gotten them educated, and I believe

(Testimony of Foster M. Hagmann.)

that was just about the time that they began to consider additional procurement.

The Court: Your testimony is in 1947 and 1948 they started to put into the blueprints the requirement for this particular kind of washers.

The Witness: Yes, sir.

Q. (By Mr. Fulwider): Am I correct, Mr. Hagmann, that [74] the people who make the decisions as to what is called out in the blueprints are usually not the people who actually make the drawings themselves, but the design engineers?

A. That's right.

Q. So that your activities were with the design engineers? A. Yes, sir.

Q. And then they decide what they would have.

A. Yes, sir.

Q. And then they were drawn up by someone else. A. By a draftsman, yes.

Q. And then subsequently they would go into production. A. That's right.

Q. Can you tell me anything or do you know anything of the general state of activity of the aircraft industry in 1947 and 1948?

A. There was some little design going on, toward the latter part of the period there was quite a lot of activity, but in the early part there was none.

Q. Was there very much production, and when I say very much I mean compared to what it was up to the moment of the end of the war and what it became later in 1950 and 1951?

A. Right after the war it was chopped off, went

(Testimony of Foster M. Hagmann.)

to nothing, practically nothing. They were doing some commercial [75] building, but that was all.

Q. How long did the production of aircraft stay at practically nothing subsequent to the war?

A. It was about 1948 when it really started to pick up again.

Mr. Fulwider: I believe that's all we have of this witness, your Honor.

The Court: Mr. Miller?

Mr. Miller: I have another question, your Honor.

Recross Examination

Q. (By Mr. Miller): On these blueprints you have referred to, how are these seals identified? In other words, how would they identify whether an engineer wanted to use a Stat-O-Seal or a Lock-O-Seal?

A. These early blueprints, there were no Stat-O-Seals, as I recall it.

Q. What is the present practice?

A. They call them by trade name, as a general rule, or a part number.

Q. If he wants a Lock-O-Seal, he puts down Lock-O-Seal, does he?

A. Or the part number.

Q. You have a part number for the Lock-O-Seal? [76] A. Yes, sir.

Q. If he wants a Stat-O-Seal, does he put down the part number for that, or does he call it Stat-O-Seal?

(Testimony of Foster M. Hagmann.)

A. Usually they call them both, usually they call them by both, or quite frequently.

Q. By both names?

A. By the name of Stat-O-Seal and the part number.

Q. Then you have a double identification, the trade name and the part number that you assign to that particular part?

A. Sometimes, but not always.

Q. Are these engineers careful to ascertain whether or not the particular seal that they use at a certain location in the design of the plane has approval?

The Court: Approval of whom?

Mr. Miller: Wright Field frequently.

The Court: I beg your pardon?

Mr. Miller: Wright Field.

The Court: Approval of whom? The government?

Mr. Miller: Yes, approval of the government, Wright Field.

The Witness: They can have Wright Field approval.

Q. (By Mr. Miller): Isn't that the usual requirement, that they ascertain whether or not the part does have approval before they incorporate it in the design of the plane? [77]

A. Not always.

Q. Is that usual?

A. It is customary, yes.

Q. Prior to 1948, did the Wolfe Company have

(Testimony of Foster M. Hagmann.)

any Lock-O-Seals to sell? A. Yes.

Q. And from whom did they acquire those Lock-O-Seals? A. I don't remember.

Q. Did they ever acquire any Lock-O-Seals to sell from the Industrial Specialties Company?

A. I presume so, yes.

Q. Weren't you with the company at the time?

A. Yes.

Q. When they acquired seals from the Industrial Specialties Company? A. Yes.

Q. Now, here in this Exhibit 81, this inner rubber ring, is that an O ring?

Mr. Fulwider: I would object to this question. This is going beyond the scope.

The Court: You call it doughnut shaped ring and he is calling it an O ring.

Mr. Fulwider: I have no objection to the question at the proper time with the proper witness, but I believe the technical aspects of this are going beyond the scope of the [78] direct examination of this witness.

The Court: Overruled.

The Witness: I think they are commonly referred to as O rings.

Q. (By Mr. Miller): Do you have anything to do with the copy gotten out in the form of advertising of Lock-O-Seals or Stat-O-Seals?

A. Yes.

Q. Do you approve of it?

The Court: Wait a minute. Do you mean does he have anything to do with it now or did he have

(Testimony of Foster M. Hagmann.)

anything to do with it back in 1947 and 1948?

Q. (By Mr. Miller): I will pin down the time to about 1955. A. Yes, I pass on it.

Q. I will show you Exhibit 22.

The Court: Will you let opposing counsel see it?

Mr. Miller: He produced it.

The Court: I know, but he can't remember now what number it was marked. He has a right to look at it.

Mr. Fulwider: I will object, your Honor.

The Court: You can't object because there is nothing before the court.

Mr. Fulwider: I was going to say about any interrogation about documents that aren't before the court as part of [79] the direct.

The Court: He has to lay a foundation some time. Overruled. There isn't anything to object to yet.

Q. (By Mr. Miller): I will show you Exhibit No. 22 and ask you whether or not you either prepared or approved of the copy in that exhibit.

A. Generally, I would say that I give it an approval only after the engineer has approved it. I approve it on his say so.

Q. I notice down here in the lower right-hand corner of that exhibit the statement under Features, under the heading of Features, "Stat-O-Seals retain all the advantages of O ring sealing. They will not cold flow." Did you approve of that copy?

A. Yes, after engineering had approved it.

Q. This O ring sealing there that you are refer-

(Testimony of Foster M. Hagmann.)

ring to, does that have reference to the O ring sealing that you get with the seal of the O ring in Exhibit 81?

A. I am afraid I don't understand the question.

Q. Well, what does this O ring seal that you say the Stat-O-Seals retain all the advantages of refer to, in other words?

A. It refers to sealing with Exhibit 81, yes.

Q. And in this part of the ad when you speak about O ring sealing, you are referring to the O ring part of Exhibit [80] 81? A. Yes.

Q. The statement is made just below that, "The relative mass voids provided will not vary, thus eliminating the problems inherent to O ring groove sealing."

What were the problems inherent to O ring groove sealing that you are referring to there?

A. The tolerance problems.

Q. Will you explain that?

A. O ring groove sealing is sometimes done by counterboring, machining grooves, and dropping an O ring into it, and an accumulation of tolerances is present that frequently can cause the seal to malfunction.

Q. Well, this statement, then, about the O ring groove sealing made near the bottom that I last quoted to you is not the same as O ring sealing mentioned at the top of this little paragraph, is that right?

A. Well, I am not too familiar with the engineering aspects of these things. There is not pres-

(Testimony of Foster M. Hagmann.)

ent, let us say, in the O ring and washer combination, which is the doughnut combination of Lock-O-Seal, it does not have nearly the accumulation of tolerances that the other combination has.

Q. I don't quite understand you. The Lock-O-Seal does not have quite the accumulation of tolerances that the Stat-O-Seal has, or is it vice versa?

A. That the O ring and the groove has.

Q. The Lock-O-Seal does not have quite the accumulation of tolerances that an O ring and groove with no retainer? A. Right.

Q. Have you experienced any difficulty in keeping Lock-O-Seals within the specified tolerances?

A. I can't answer that, because that happens out in the factory and I don't get into that.

Q. Do you get any rejects or returned Lock-O-Seals from customers? A. Rarely, if ever.

Q. Did you get some in 1948?

A. I don't recall.

Q. In 1948, did the Franklin C. Wolfe Company have any laboratory in which sample or test devices could be made and tested?

A. We had the full use of the Rohr laboratory for that. I don't recall whether we had our own laboratory at that time or not, but we did use the Rohr lab.

Q. To make up samples? A. For testing.

Q. Did you have any facilities for making up samples to be tested?

A. I don't recall what equipment we had then.

Mr. Miller: That's all. [82]

* * * * *

MAX I. McCLAY

called as a witness by and on behalf of the plaintiffs, having been first duly sworn, was examined and testified as follows:

* * * * *

Direct Examination

Q. (By Mr. Fulwider): By whom are you presently employed, Mr. McClay?

A. I am employed by the United States Navy, Bureau of Ordnance, particularly at the Naval Industrial Reserve Ordnance Plant at Pomona.

Q. Is that plant being operated by Convair at the present time?

A. Convair is the contractor who has been employed to do the work, but it is an entirely government owned plant.

Q. What is your position with the government now?

A. I am the Engineering Supervisor. [83]

Q. That is a branch of the Navy?

A. That is a branch of the Navy.

Q. How long have you been with the Navy?

A. I have total time towards retirement of 21 years.

Q. That starts you out when?

A. There was some time on active duty, which counts toward retirement, and then I started my civil service work in 1939, at the end of 1939.

Q. What was your position in 1939?

A. I started out as a government inspector of naval aircraft.

Q. Where were you located at that time?

(Testimony of Max I. McClay.)

A. At Convair, San Diego.

Q. Were you ever resident inspector or supervisor at Rohr Aircraft Company in San Diego at Chula Vista?

A. At the beginning of 1942, I was transferred to the Rohr office as the resident engineer. The duties in this capacity were as an engineering liaison between the Bureau of Aeronautics and the local plant.

Q. In connection with your duties at the Rohr Aircraft Company for the government, did you have anything to do with problems of sealing that were presented to Rohr in 1942 or 1943, along in there?

A. There was a contract let to the Rohr Company which, among a long list of items, had one short but very troublesome [84] item, "Make fuel tanks fuel tight." These fuel tanks had been built without the intent of being used as, technically known as integral tanks. They had many — they wouldn't hold fuel at all as they were delivered to Rohr. They weren't built that way, not designed that way, no intent that they should. They had been designed and built with the idea of using what is technically known as Morang cells. They consisted of a rubber, large rubber bladder which would fit inside of the structure.

Q. May I interrupt you just a moment? I think you misspoke yourself. You said tanks when I believe you meant wings, or maybe I am in error.

A. The fuel tanks were in the wings, and thus

(Testimony of Max I. McClay.)

the structure was the wing structure which supported these fuel tanks approximately—I have forgotten the dimensions but I would guess it, as I remember, about two feet high and probably nine feet in one direction, fore and aft, and probably, depending on which tank it was, from four to six to eight feet in the other direction. So they were very large rubber bladders that were to be installed in these fuel tank areas.

Q. In the wing sections?

A. In the wing sections.

Q. All right. Proceed.

Q. The problem was presented to Rohr, without any instructions whatsoever or even specifications as to how this [85] work was to be done.

The Court: May I ask a question?

The Witness: Yes, sir.

The Court: I understand that when these wings were constructed, the rubber bladder would go inside for the purpose of holding the fuel. The instruction was to make the wing tight so it would carry fuel without the rubber sack, is that right?

The Witness: Without the rubber sack, without the bladder.

The Court: Without the bladder.

The Witness: Yes.

The Court: All right.

The Witness: They attacked the problem with whatever was available. In my capacity as the resident engineer, I arranged for trips in which Mr. Gross and I, along with others that were engineers

(Testimony of Max I. McClay.)

that were involved in this problem, visited the local plants around this area, for instance, Lockheed, Douglas, North American, to find out if they had solutions to tank sealing problems. We found that about every place it was the same story.

Getting back ahead of myself here a little bit, it was common practice when I was attached to the office at San Diego, Convair, for the Navy to return the aircraft to the Convair plant, in which case they would remove the plating or [86] the sheets, in aircraft terminology the skin, which is the skin or sheet that fits on the outside of the airplane.

Of course, this is a riveted structure, for the most part. There are many bolts, but for the most part it is riveted. The method of sealing had been one where rubber was sandwiched between two pieces of metal and, of course, when you draw bolts up tight or rivets up tight, the rubber squeezes out of the way, and then the fuels that were used in these days would attack this rubber that was available and cause further deterioration of this seal.

These aircraft that were returned to the plant for repair of the fuel tanks would probably take a minimum of, on an expedited schedule, night and day work, probably three months to do the job.

I mention this because I feel it would indicate the magnitude of the job that was presented to the company in this particular contract.

Getting back now, we investigated to find out what there was available in the way of sealing methods. These other companies likewise had air-

(Testimony of Max I. McClay.)

craft that was torn down for long periods of time, in which they would sandwich some new rubber in between the sheets of metal. It would last for a certain period of time.

In the installation, rivets were smeared with zinc chromate paste to aid in sealing the rivets and the [87] areas around the rivets or bolts, as the case might be.

The problem just developed on and as Mr. Gross went from one thing to another, I think that the real case where he got the idea of the Lock-O-Seal type of seal is where he came to the corners of a fuel tank. The corner is an extremely difficult thing to seal. Of course, having a fuel tank which had never been intended to be an integral tank, the corners were not prepared for it, so that we had to make new corners entirely.

Q. You mean new corners in the wing structure or in adapting the tanks that were already there to become a part of the wing structure?

A. It consisted of both a drop hammer part which would serve as a structural member, and then bolted on into the corner.

Q. In the wing structure, is a wing divided into a series of compartments that you might call separate tanks within the structure?

A. This is right. There are several wing tanks, depending on the location in the wing.

Q. Do you recall becoming familiar during that period of time with the seal that we now know as the Lock-O-Seal?

(Testimony of Max I. McClay.)

A. Well, I was in daily contact with the shop who were working on this problem. It wasn't my job to approve, necessarily. As I mentioned before, I was acting as a liaison for [88] the Bureau of Aeronautics. They are the ones who approved the job.

I offered them recommendations and kept them informed of developments. They are the ones who gave the final approval.

Q. Do you recall where you first saw one of these fastener seals or Lock-O-Seals, and about when?

A. I believe it was in probably about the forepart or middle of 1943 in the Rohr laboratory which Mr. Gross was in charge of. There, in discussing the problem, he showed me what he had, the tests that had been made. I don't know as we could carry this down to a specific date, because this was a development process and not something that happened overnight.

Q. Did you continue there at Rohr for some time?

A. I was at Rohr Aircraft until, I believe it was July 1946.

Q. Do you recall whether or not Rohr Aircraft during the war or during the balance of the war after the creation of the Lock-O-Seal used any of them in modifying ships or otherwise in connection with aircraft?

A. I believe that the entire supply was used by

(Testimony of Max I. McClay.)

Rohr Aircraft and purchased by the Navy. Incidentally, I think one item might be pertinent along the consideration we have here, especially in view of this discussion of sandwiching [89] the rubber. In order to carry the stresses from a bolt head into the structure, instead of passing through rubber and then into the structure, you need this kind of a structure to carry the stresses, and this is one reason why sandwiching rubber has never been successful.

Q. You mean you need metal to metal contact?

A. Metal to metal contact to carry the structure stresses.

Q. From one metal part to another part.

A. Yes.

Q. Do you have any knowledge or recollection of the approximate quantities of these Lock-O-Seals that were used by Rohr after the Lock-O-Seal came into being up until the end of the war or during this project, shall we say, of reconversion, either in total numbers, or as an example, so many per ship, something like that?

A. I think that we had something in the order of 80 of one type of aircraft, PB2Y3 type of aircraft. This was a four-engine seaplane. The manholes which had been provided in the wing structure of the aircraft were much larger than that required by a man, because of the bags or cells that were to be installed, so a spacing of, I would guess, of not more than an inch and a half all the way around these manholes were bolts that had to be reinstalled

(Testimony of Max I. McClay.)

and sealed. So I am going to make a rough guess of at least 600 per airplane. [90]

Now, we had other contracts subsequent to the PB2Y3. We had some PBMs and PBYs and they were used on these aircraft.

Q. Likewise, extensively, in large numbers?

A. Yes, sir.

Q. Do you remember whether or not the Navy issued any kind of a directive or made the Lock-O-Seal standard approved equipment in that era?

A. I think the service bulletin No. — maybe I shouldn't try to remember the number, but it was in the latter part of 1944 it was issued by the Bureau of Aeronautics directing their installation and use.

Q. I call your attention to Exhibit 31——

The Court: When you refer to those exhibits, you should refer to them as marked for identification, because we have only got a very few exhibits that are in evidence. I don't think Exhibit 31 has been admitted in evidence.

Mr. Fulwider: No, it has not yet, your Honor.

The Court: All right.

Q. (By Mr. Fulwider): I call your attention to exhibit marked 31 for identification, which is a letter dated 19 April 1948. Can you identify that letter for me? Is that your signature at the bottom?

A. That is my signature. Mr. Paul Carl called me on [91] the telephone and asked me if I would be willing to confirm the use of Lock-O-Seals, and I wrote the letter in response to that.

Q. I call your attention to about the middle of

(Testimony of Max I. McClay.)

the second paragraph, which states that the Bureau of Aeronautics directed installations by their PB2Y airplanes, bulletin No. 47, dated 9 December 44. Is that the directive you just mentioned in your testimony? A. This is the one to which I refer.

Mr. Fulwider: I offer that in evidence, your Honor, as 31.

Mr. Miller: I don't believe that is the best evidence here. This appears to have been a letter written four years after the event. I don't see how that could be of any evidence here.

The Court: May I see it?

Mr. Fulwider: I think it is relevant, your Honor. It is corroborative of his testimony concerning the government bulletin and concerning the entire transaction about which he has testified.

Mr. Miller: If there is a bulletin available, the best evidence would be the bulletin.

The Court: I think this letter could be introduced if you could bring it under the document rule, that is, if you can establish that this came out of the files of the Industrial [92] Specialties, Inc., that it was their custom to keep these letters as part of their records, but this witness can't testify to that, as far as I know.

Mr. Fulwider: No. He can only testify, of course, he wrote the letter.

The Court: He testified he wrote the letter. I don't believe it is admissible just because he wrote the letter to some third party.

(Testimony of Max I. McClay.)

Mr. Fulwider: We can identify it further by a later witness, I believe.

The Court: Then suppose you wait until you get somebody here from Industrial Specialties, Inc.

Mr. Fulwider: All right.

The Court: And they can bring it within the rule and then there will be no question about it.

Mr. Fulwider: I think we can do that by a member of the Wolfe Company who fell heir to those records of Industrial Specialties, as I understand it.

The Witness: May I say in response to this, gentlemen, that since the PB2Y3 airplane is history completely, it would be possible, maybe, to get a copy of this service bulletin from the Bureau of Aeronautics, but they would have to dig pretty far back in their files to get it.

Q. (By Mr. Fulwider): Do you recall of your personal knowledge that such a bulletin was issued?

A. It was issued and used. It was distributed throughout the United States Navy Aircraft Services.

Q. At the time you wrote that letter dated 1948, Exhibit 31—— A. It was in effect then.

Q. A copy of that was then available?

A. Yes.

Q. Would you normally have one in the usual course of your business then? A. I did have.

Q. Now, I believe you said you stayed in San Diego for several years following the close of the war. Can you tell me very briefly as to the activity in the aircraft industry from the point immediately

(Testimony of Max I. McClay.)

following the close of the war, say the day after the war finished, up through the balance of 1945, 1946 and 1947 and into 1948, of your own personal observation?

A. At the time of the end of the war, that would be August 1945, wouldn't it?

Q. Yes.

A. At the end of the war, there was one plant that I spent quite a bit of time at that had 50,000 people working there, as a matter of fact, over 50,000. This may be recorded, I am sure, from newspapers and whatnot. They dropped to less than 10,000 during the period from 1945 over through 1947. [94]

At the Navy office, we had 340 people employed on government civil service, and our employment dropped to, I think it was either 29 or 30. There was a planned layoff period where so many people were dropped each week.

Another plant that I was aware of employed during the war about in the neighborhood of 10 to 11 thousand and they dropped to about 3,000.

Q. Was this condition rather general in the aircraft industry, at least out here on the Pacific Coast?

A. I am sure that anybody who had anything at all to do with the contract business at that time will record or remember the contract terminations.

Q. You mean all the government contracts were terminated promptly?

(Testimony of Max I. McClay.)

A. They were terminated promptly.

Q. Do you recall when any production activity in the aircraft airframe business resumed with any substantial amount at all?

A. Well, with this reduction, there was a tremendous scramble to try to find something to keep going on. Naturally, the design work that had been thought of during the war and planned was carried out as far as was possible, but there was no use for engineers to design something that the salesmen can't sell. The government is probably the greatest purchaser of aircraft, so when their contracts were down, there [95] was no object in building military aircraft that the government didn't have use for, because I am sure that everybody will remember the newspaper pictures of acres of aircraft sitting idle in various and sundry fields throughout the United States.

Q. Those were, I assume, available for sale, many of them, to whoever wanted to buy them.

The government auctioned some of them off at ridiculously low prices, but the maintenance on an aircraft is particularly large, take a B-24, PB2Y3, or something like that. It is something that not very many people can stand, and even though it was given to them, it would be like a white elephant. They couldn't support it after they got it.

Q. One more question. Can you tell me whether or not in the normal course of things there is any substantial lag between the design of an aircraft and the things that go in it, like seals, for example,

(Testimony of Max I. McClay.)

and the actual procurement of those seals, whereby they are delivered and paid for?

A. Probably the aircraft that were manufactured in 1949 is from the designs that were put on the paper in 1946 or 1947. Three years is not uncommon as an interim period.

Q. So 18 months to two years, you would say, was a conservative estimate?

A. Well, we wouldn't get it out that fast.

Mr. Fulwider: Thank you. Cross examine. [96]

Cross Examination

Q. (By Mr. Miller): Now, you spoke about a plant that had 50,000 people during the war and 10,000 people after the war. What plant was that?

A. That was Convair at San Diego.

Q. What did they do with the 10,000?

A. Well, they got a make-work committee, as far as I could see, and tried to keep them going.

Q. Were they building planes or making something else?

A. They were naturally making planes and working on new designs that they thought possibly could be used, particularly in commercial fields, in particular the Model 240.

Q. Did they do any design work on new government planes?

A. Very limited. They had one contract for a new design with the Navy.

Q. Was that a substantial contract?

(Testimony of Max I. McClay.)

A. It was a rather long-term, if that is what you mean, yes.

Q. A substantial number. It was not just a few experimental planes, was it?

A. The government, I think, is a rather benevolent employer. Some of these contracts were almost in the category of feeling, "Well, this is a part of our national defense and [97] we must maintain it," so contracts were sometimes let for needed work, but which would be a maintenance of this military potential.

Q. Now, on this so-called maintenance work done on these planes, were these seals usable?

A. Now, this question is a little—I have got to qualify it. These seals during the war, I suppose, had been used by the Navy, and probably with the exception of a very small amount that might have gone to some other activity for sealing purposes, I suppose the Navy was the sole purchaser of these seals. They were not in general use. Thus, since they were not in general use, there is no reason why they should be used generally. They could be used if the people knew of them and desired to use them, yes.

Q. Now, Mr. McClay, I don't want your supposition here. My question was, on these government orders that were let out with the idea of keeping the skeleton crew of 10,000 busy, were those planes of such a design that these Lock-O-Seals could have been used on them?

A. They were actually used on the Model 240.

(Testimony of Max I. McClay.)

Q. Was that the model that was being built by this skeleton crew?

A. That was not a military plane. It was a commercial plane. When I say they were used on Model 240, I am not saying that they didn't use anything else on the plane, you understand. [98]

Q. In the way of seals?

A. In applications where they were needed, they were used on the Model 240, on a commercial plane.

Q. How many were used on the Model 240?

A. I am going to have to guess.

Q. Give us your best guess.

A. I would guess in the order of 100 minimum, and the reason I say 100, I feel that this is a conservative estimate. I do not have technical knowledge as to all of the applications. There is no reason why I should, because it was a commercial airplane.

I do not know of other specific applications other than the maintenance bulletins on the PB2Y3s that were still in existence and so I guess the rest of it is conjecture.

Q. You have given us an estimate of the minimum. What would be your maximum estimate on the 240?

A. They probably would run as high as 500 as a maximum.

Q. And how many 240 planes were to be built by Convair after the war on this contract you are talking about?

A. Well, they started out with a pretty small

(Testimony of Max I. McClay.)

contract from Pan-American, I believe it was. I believe it was 10 planes to start with.

Q. And was that increased?

A. It was eventually increased. [99]

Q. Approximately when was it increased?

A. Oh, the best estimate would be about the beginning or the end of 1948. It was not, I am sure, in 1947.

Q. This other plant that you mentioned that had a wartime crew of 10 or 11 thousand, shrunk to 3,000 after the war, what plant was that?

A. That was Rohr.

Q. Rohr? A. Rohr.

Q. And were they manufacturing——

A. This, I feel, is rather unimportant, because there should be plenty of substantiation to show that all of them had the same kind of a reduction in force. I am sure there is no reason to assume that any of them were especially favored to keep right on going. I know at some of the plants the second day after the war they met them at the gate and said, "Boys, your job isn't here any more."

Q. Now, the 3,000 they kept, were they making planes on which these seals were usable?

A. They were doing—their major operation was engine packages, major, after the war. These would be usable to some extent.

The Court: What do you mean by engine packages?

The Witness: It used to be when you wanted to change an engine on an aircraft, it was a major

(Testimony of Max I. McClay.)

operation. [100] The airplane is ready to take off, the engine fails, so the airplane would be tied up for some lengthy period of time while the engine would be changed. But they had developed a quick change package where in probably just a matter of hours you take one engine off and put the other on. The time lag had been very materially reduced. In these packages on the fire wall there would certainly be applications.

Q. (By Mr. Miller): Of these seals?

A. Of these seals.

Mr. Miller: May I have Exhibit 31, the letter he was talking about?

The Court: It is not in evidence.

Mr. Miller: He was interrogated about it.

The Court: All right.

Mr. Miller: I think, having opened it up to that extent, I should be able to cross examine a little bit.

Q. Do you recall who it was — well, let me straighten this out. Do I understand somebody at Industrial Specialties asked you to write them this letter, Exhibit 31?

A. This man, Paul Carl, I believe, had taken employment with Industrial Specialties, and knowing that I had been cognizant of this work, he called me on the phone and asked me if I would write the letter for him, which I did.

Q. Did he tell you what he wanted the letter for?

A. Well, I didn't particularly care, because if

(Testimony of Max I. McClay.)

the [101] thing is the truth, well, then, it doesn't make much difference what he wants it for.

The Court: That isn't the question. The question is, do you know what he wanted it for? You can answer that yes or no.

The Witness: Well, I will have to assume the same thing now I did then, that he had some idea of sales promotion.

Q. (By Mr. Miller): Did he tell you what to put in the letter? A. No.

Q. Does the Navy permit you to write such a letter for advertising purposes?

The Court: Well, that is immaterial, whether the Navy permitted him to do it or not. He wrote it. Suppose he was not permitted to. He has written the letter and the letter is here.

The Witness: I am sure the Navy has——

The Court: Just a minute, please.

The Witness: Yes, sir.

The Court: I think it is immaterial.

Mr. Miller: Very well.

Q. (By Mr. Miller): At that time of the letter, which is in 1948, was Industrial Specialties selling these Lock-O-Seals, or Mr. Carl selling the Lock-O-Seals? [102]

A. I merely assume that they were preparing to do so. The only assumption I make is he asked for it, so why else would he ask for the letter?

Q. You had no other contact with Mr. Carl or the Industrial Specialties Company other than this telephone call, is that it?

(Testimony of Max I. McClay.)

A. I am sure that I haven't seen Paul Carl since 1946, although I have talked to him a few times on the telephone.

Q. You had nothing to do with the—withdraw that.

Was it Industrial Specialties Company selling Lock-O-Seals to these airplane companies?

A. None.

Q. Had they been?

A. Pardon me. I don't understand you. Had they been selling——

Q. Selling Lock-O-Seals to the airplane companies.

A. Since I had no contact with them, I wouldn't know. Probably they were. Just on the assumption that people go in business to sell things, I assume they were, but I have nothing more than that to go on.

Q. Did you know what was the source of supply for the Lock-O-Seals that went on these planes, the PB2Y3s and the PBMs and the PBYs?

A. This was Rohr Aircraft.

Q. They made them? [103]

A. They made them.

Q. Did you see them made there at the plant?

A. Yes.

Q. Can you tell me the approximate volume that they made at that time that went on these?

A. No, I can't tell you that. Other than the indications that I have given, that we had so many to use on each aircraft and we had—it was in the

(Testimony of Max I. McClay.)

San Diego newspaper, I believe, that they listed it as about 80 of them out in the pasture one day when they showed them by pictures in the newspaper.

* * * * *

Q. (By Mr. Miller): Now, if I understand you, you were in daily contact with the people confronted with the problem of leakproofing the corners of these tanks. A. That is right.

Q. Do you recall the names of the people you were in daily contact with that were confronted with this problem?

A. In particular, Mr. Gross.

Q. Anybody else?

A. I don't feel that the rest of them have any significance at this time. [104]

Q. Suppose we let the court decide that.

A. There were other engineers that had some part under his direction.

Q. Do you recall their names?

A. They called him Al — Alderman. Indirectly concerned was Hugh Rush, McCrary—a few other people around the place.

Q. Do you recall a Mr. Kerley?

A. Kerley? No, I don't.

Q. You say that this thing was something that was not developed overnight. Were there some other attempts to solve this problem of leakproofing the tanks?

A. Yes, there were other attempts in the sense of development, yes.

(Testimony of Max I. McClay.)

Q. Were those made by Mr. Gross?

A. Under his direction.

Q. Do you recall who were the individuals that made these other attempts?

A. I can't remember who was on his staff completely. There were quite a few people that came and went during that period.

Q. Do you recall the nature of the attempts that were made to solve this problem?

A. The most obvious thing is to sandwich some rubber in between two pieces of metal, but this wasn't the solution. [105]

Q. That is the way the tanks were originally made, wasn't it? A. Yes, that's right.

Q. They were going to change that to leakproof these tanks? A. This is right.

Q. And they knew that the sandwiching was not adequate? A. That's right.

Q. Do you recall the first development or the first attempt to solve the problem after they decided that sandwiching was no good?

A. I don't know as I recall any interim programs, no.

Q. Do you recall the nature of any design or proposed seal for sealing and leakproofing the tanks?

A. There was an attempt at using some kind of a confined rubber in a machined-out area, but on thin sheets this is not a satisfactory method. It could be done, but it isn't satisfactory on thin sheets.

(Testimony of Max I. McClay.)

Q. Did they propose countersinking these sheets?

A. That is what I am talking about, yes.

Q. What were they going to put in the countersink after they had the countersink?

A. They would use a rubber O ring. O ring is a general term for anything, any doughnut-shaped piece of rubber.

The Court: Any doughnut-shaped piece of rubber? [106]

The Witness: It is not confined to anybody in particular. A lot of people make them. It hasn't any great significance within itself.

The Court: Is an O ring a flat ring?

The Witness: It is a doughnut-shaped round, a round section, round configuration.

The Court: Did you see any of these doughnut rings or these O rings that were round, say before 1947 and 1948?

The Witness: Oh, yes. My period of time was between 1942 and 1946.

The Court: You saw these doughnut-shaped rings that were round, did you?

The Witness: Yes, in use.

The Court: And they were using them?

The Witness: Sure.

Q. (By Mr. Miller): Did you know of the existence of O rings in 1939 when you first went over there to Convair? A. No, sir.

Q. You had never heard of an O ring prior to when?

(Testimony of Max I. McClay.)

A. Probably not prior to, oh, 1941, I guess. This is getting pretty far back in history.

Q. Then you knew of the existnce of O rings in 1941 and 1942?

A. Well, the way you speak of it, it sounds like there might be some great significance to an O ring. This is just [107] a plain simple little piece of rubber.

The Court: Did you see some of these plain, ordinary doughnut-shaped rubbers prior to 1944?

The Witness: Yes.

The Court: They were used?

The Witness: They were developing them in this particular application during 1943.

The Court: In 1943?

The Witness: Yes.

The Court: My understanding is, and I want to be sure I understand you correctly, in 1943 you saw an O ring that was round, that is, not only round in circumference, but the rubber was round?

The Witness: Round in section, yes.

The Court: Round in section, somewhat similar to this O ring on Exhibit 81, is that correct?

The Witness: Yes, sir.

The Court: And that was being used before 1944?

The Witness: In 1943, it was developed.

The Court: In 1943. All right.

Q. (By Mr. Miller): My point is, didn't you know of the existence of that type of O ring prior to 1943?

(Testimony of Max I. McClay.)

A. Well, I couldn't before its development, let's put it that way.

Q. You never knew that O rings were on the market in [108] the middle thirties?

A. We were not using them in common usage, certainly, in aircraft much before 1941. There might have been some special applications. I don't know when the O ring as such was developed or by whom, the O ring as an O ring. I assume some rubber company developed it.

Q. That was prior to the time that these O rings as used in Lock-O-Seals were developed in 1943, you say, by Mr. Gross?

A. In 1943 Mr. Gross developed the use of a Lock-O-Seal as described by these drawings down here and made his selection of the kind of rubber that could be used successfully in this application.

The Court: Before Mr. Gross made his seal, this O ring that was round in the cross section had been used in the trade. Mr. Gross didn't develop the O ring, did he, this particular O ring?

The Witness: I don't think so.

The Court: Speak up. These attorneys want to hear you.

The Witness: I don't think so.

The Court: All he did then was take an O ring that was on the market and insert it into a metal washer?

The Witness: Well, now, this is something that I am not prepared to say, that he took one that was on the market, [109] although it may have been in

(Testimony of Max I. McClay.)

use. There is one thing I would like stricken from the record, and that is to try and define when the O ring was first used. That isn't a question here, is it?

The Court: You let me decide what the question is. I am just trying to find out what you know about this matter. My understanding is, now, that Mr. Gross took an O ring similar to the one that had been in use, and then he put the O ring inside of a metal washer to make his seal, is that what he did?

The Witness: No, that isn't what I said.

The Court: What did you say?

The Witness: I said he developed the use of an O ring and metal washer and made the Lock-O-Seal.

The Court: How did he develop them? What do you mean by developed?

The Witness: I think that he will have to tell you where he got it from.

The Court: I know, but we have a claimed invention here, that is, they take an O ring and place it inside a metal washer.

The Witness: This had not been done before.

The Court: No, but the O ring had been used before and the metal washer had been used before, so all Mr. Gross did was take the O ring and insert it in the middle of the [110] metal washer, is that correct? Is that what you mean by developed? It is awfully simple the way I state it, isn't it?

The Witness: Yes, it is.

(Testimony of Max I. McClay.)

The Court: What do you mean by developed? You said he developed this. What do you mean by developed? What did he do?

The Witness: His problem was to seal these tanks and to find some method of doing so, and this is his development.

The Court: This is what he did. What did he do now? Just concern yourself with the sealing in airplanes. What did he do relative to the development of the seal? You have used the word development.

The Witness: I don't think I am in a position to say O rings had never been used before, so I guess we will have to accept your words and say that he put an O ring into the washer.

The Court: I don't want you to accept my words. I want to know what you think he did and what you saw him do.

The Witness: That is what I saw him do, is put the O ring in the washer and test it out and use it, yes, sir.

The Court: All right, Mr. Miller.

Q. (By Mr. Miller): Was this proposal of countersinking the sheet and putting an O ring in the countersink ever tried out by Mr. Gross? [111]

A. Yes.

Q. Was it tested by him? A. Yes.

Q. Was it rejected on test?

A. As originally done, yes, but later it was developed and there was a method developed for use of this type of thing.

Q. Did that proposal to countersink come from

(Testimony of Max I. McClay.)

Mr. Gross or did it come from somebody else?

A. Insofar as I know, it came from Mr. Gross.

Q. Were there any other proposals made besides the countersinking and putting the O ring in the countersink and the proposal of putting an O ring inside of a metal washer?

A. I don't know of any.

Q. You were there daily. A. Just about.

Q. You were in contact with Mr. Gross daily?

A. Just about daily.

Q. During this period of 1943-1944?

A. Yes.

Q. As far as you know, nobody else besides Mr. Gross had anything to do with the actual development of these two methods of sealing?

The Court: Well, aren't you assuming something not in evidence, that nobody else did it? A man does not ordinarily [112] work by himself in a large organization. If Mr. Gross was the head of the department, he probably had somebody working with him.

Mr. Miller: That is what I want to inquire of this witness. Did he do it on his own or did he have somebody working with him?

The Court: When you use "on his own," you are trying to separate him from the Rohr Company.

Mr. Miller: No.

The Court: He might not have been doing it on his own but for the Rohr Company.

(Testimony of Max I. McClay.)

Mr. Miller: He might have kept all of this experimental work himself. He might say, "This is my baby. I am going to work on it myself. I am not going to even delegate this." I want to know what Mr. McClay's knowledge on the subject is.

Q. Did Mr. Gross keep that to himself and say, "This is my baby, this is my problem; I am going to solve it all by myself," or did he say, "I want every suggestion I can get from my laboratory, from everybody out in any laboratory"?

A. In any laboratory there is a head of the department and he takes the responsibility for what the laboratory does and directs the work, so he had a staff of people that were working for him and under his direction.

Q. That is very interesting. [113]

A. I am sure if somebody had come along and said, "Here is an idea, why don't you try this," he would have done so. It was a pretty difficult task.

The Court: Let me ask the witness a question. Did you see anybody work upon the development of this particular seal besides Mr. Gross?

The Witness: I do not know of anybody working on it besides him.

The Court: Do you know of your own knowledge whether any other company or individual other than those connected with the Rohr Company were working on a seal by putting a rubber washer inside of a steel washer?

The Witness: I know of nobody.

The Court: The Rohr Company is the only

(Testimony of Max I. McClay.)

place where you saw the rubber washer put inside the steel washer?

The Witness: This is right.

The Court: That is right, is it not?

The Witness: Yes, sir.

Mr. Miller: I have no further questions. [114]

* * * * *

ROBERT C. COMSTOCK

called as a witness by and on behalf of the plaintiffs, having been first duly sworn, was examined and testified as follows:

* * * * *

Direct Examination

Q. (By Mr. Lee): Would you state your occupation, please, Mr. Comstock?

A. I am a patent lawyer.

Mr. Miller: Will you speak louder, please?

The Witness: Yes, sir.

Q. (By Mr. Lee): Are you a member of the Bar of this court? A. Yes, I am.

Q. Are you a member of the State Bar?

A. Yes, I am.

Q. How long have you practiced patent law in California?

A. I practiced patent law in California since early 1954.

Q. Prior to that were you engaged in the practice of [115] patent law?

A. Yes. I practiced in Chicago, Illinois, from 1941 up until the time I moved to California, except for time in the service.

(Testimony of Robert C. Comstock.)

Q. Are you a member registered to practice before the Patent Office?

A. Yes. I was admitted to practice in the Patent Office in either 1941 or 1942.

Q. In the course of your service work, did you have technical training?

A. Yes, I did. I had technical training and in later work at the Illinois Institute of Technology, and I also did some teaching of radar in the Signal Corps schools.

Q. In the course of your work as a patent lawyer, have you had occasion to give opinions on validity and infringement of patents?

A. Yes, I have, very frequently.

Q. Have you ever been called on to testify as an expert witness in patent cases?

A. Yes, I have.

Q. Have you testified in any local patent cases?

A. Yes, I have testified several times before other judges of this court. [116]

* * * * *

Q. Have you examined a copy of the patent in suit, Exhibit 23?

A. Yes, I have. I have a copy here.

Q. You have a copy with you? A. Yes.

Q. Have you examined Exhibit 8, the defendants' Duo-Seal device? A. Yes, I have.

Q. Have you examined the page in Plaintiffs' Exhibit 9 for identification which is labeled Data Sheet 1104-D? A. Yes, I have.

(Testimony of Robert C. Comstock.)

Mr. Lee: I have three charts here I would like to have marked for identification. [117]

The Court: They may be marked.

The Clerk: 84, 85 and 86 for identification.

(The exhibits referred to were marked Plaintiffs' Exhibit 84, 85 and 86 for identification.)

Q. (By Mr. Lee): I show you a chart which has been marked Plaintiffs' Exhibit 84 for identification and ask you if that chart was prepared under your direction? A. Yes, it was.

Q. Would you explain for the record what that chart shows?

A. Well, at the top of the blow-ups or enlargements are figures 2 and 3 of the patent in suit, and at the bottom are blow-ups of the defendants' device, the picture being taken from that circular 1104-D that you showed me a little earlier.

Then the numbers, reference numerals of the patent, have been left the way they were and the corresponding numerals have been applied to corresponding parts in the defendants' device in order to show a similarity in the structure.

Q. I hand you a chart which has been identified as Plaintiffs' Exhibit 85 for identification.

A. That is a straight blow-up of the portion on the left side of the circular 1104-D, that is the rectangular portion on the upper left there, consisting of two figures and the wording along with it and the dotted lines. [118]

Q. I hand you Plaintiffs' Exhibit 86 for identification.

(Testimony of Robert C. Comstock.)

A. Do you want an explanation of this?

Q. Yes.

A. 86 is an enlarged reproduction of claim 1 of the patent, and on the left-hand side are figures 2 and 3 which were taken from the patent and enlarged, and in this case the reference numerals were removed and then on the right-hand side defendants' Duo-Seal. This is an enlargement of the two figures taken from the circular 1104-D. Then the key words of the claim have been underlined, and solid lines and dotted reference lines run over to the two structures in order to show where the elements of the claim are found in the plaintiffs' Lock-O-Seal and in the defendants' Duo-Seal.

Q. Could you explain the purpose of the invention as derived from your study of the patent in suit?

A. This is a sealing device for bolts or screws. Its primary purpose is to provide leakproofing at the juncture of metal parts. While incidentally providing that leakproofing, it also seeks to provide a mechanical tightness, a metal-to-metal contact between the fastener and the metal object to which it is attached, and at the same time provide a resilient seal.

This has to be done without weakening the mechanical strength of the head of the fastener, and it has to be [119] provided in a manner in which there will be no corrosion of the rubber by the material. In this case, particularly, where it is

(Testimony of Robert C. Comstock.)

used with gasoline, there is provided a minimum area of the rubber which is available to the gasoline for corrosion.

Do you want me to continue with the explanation of the elements of the structure?

Q. Do you find those purposes stated in the patent in suit?

A. Yes. I have paraphrased those from the first paragraph of the specification of the patent very briefly.

Q. Would you explain the operation of the sealing device shown in the patent from your study of it?

A. It is best shown in figures 2 and 3 of the patent. The bolt there is represented by the numeral 10.

I might say before I start on the parts that the left-hand figure, figure 2, shows the parts before the nut is applied and before the doughnut-like member is under tension. Then the right-hand figure, figure 3, shows it after the tension has been applied.

The bolt, as I said before, is No. 10. The threaded shank of the bolt has a reference numeral 18. The bolt goes through an opening 19 between the three walls which are represented by the numerals 9, 16 and 15.

Now, beneath the head of the bolt there is situated a retainer or metal collar 21. That is referred to in the [120] claim as a washer. It is referred to, also, in the specification as being a metal collar.

(Testimony of Robert C. Comstock.)

That differs from an ordinary washer that is ordinarily used on a bolt because its diameter is considerably larger than the shank of the bolt. An ordinary washer will fit fairly close around a shank. Here we have a collar which acts more as a retainer ring for the washer 20, which is described as a thick doughnut-shaped washer, which is formed of rubber or rubberlike material.

As shown in figure 2, the diameter of this doughnut rubber washer is larger than that of the retainer ring, taking it in the sense of vertical distance there. You will see that the rubber protrudes on both sides. There are little openings that can be seen around this circular doughnut-shaped ring.

When the head of the fastener is tightened down, it deforms the circular doughnut-shaped ring into a rectangular shape, in which those small openings are filled and the form of the doughnut-shaped ring is converted into a rectangular cross section as shown at the right in figure 3.

Referring to this figure 1 a minute, you will note that the rubber here is exerting pressure against four places, against the bottom and head of the fastener, against the inside of the retainer ring collar or washer, against the metal surface, and against the shank of the bolt.

At the same time, you will note that the head of [121] the fastener is in metal-to-metal contact with the retainer ring or washer, which is in turn in metal-to-metal contact with the plate 9, so that we

(Testimony of Robert C. Comstock.)

have two things occurring then when this head of the fastener is tightened. One is that the rubber is deformed from its circular into its rectangular shape. The other is that the stress from the bolt is carried directly to the plates 9, 16 and 15, through this retainer ring 21, so that you do not have all of the stress on the rubber. There is enough stress on the rubber to deform it into the sealing position. At the same time, there is considerable amount of stress carried right through to the metal.

Q. Have you studied claim 1 of the patent in suit? A. Yes, I have.

Q. Have you compared this claim with the Duo-Seal device, Plaintiffs' Exhibit 8?

A. Yes, I have.

Q. Do you find that the elements of claim 1 of the patent in suit are found in the Duo-Seal device?

A. Yes.

Q. Using the charts that have been prepared, would you explain to the court how you find this infringes element by element?

A. I think it would probably be best to start with that chart. Perhaps we could put it up there on the board.

Q. Yes. [122]

A. Do you want me to go to the chart and explain this?

Q. Yes.

The Witness: Can the court read the chart at this distance?

The Court: Yes, I can read it.

The Witness: The claim starts off "means for

(Testimony of Robert C. Comstock.)

sealing the walls of a tank secured between the head and shank of a fastener."

The head is shown here in plaintiffs' Lock-O-Seal, and the shank goes through the opening. In the defendants' Duo-Seal, the head is here and the shank goes down through the opening.

"* * * comprising, in combination, a washer of rigid material having a central bore."

That is this washer or collar which is positioned here in the plaintiffs' Lock-O-Seal and here in the defendants' Duo-Seal.

" * * * surrounding the shank of the fastener and adapted to make rigid contact with the head of the fastener and a tank wall."

That refers to this washer or retainer in here surrounding the shank of the fastener in both cases.

"* * * and adapted to make rigid contact with the head of the fastener and a tank wall."

The tank wall, of course, is here. Your rigid contact [123] is better shown by referring to the bottom figure here, where you see that there is a tight contact between the head of the fastener, the washer, and the tank wall here, and here between the head of the fastener, the washer, and the tank wall.

"* * * and a rubberlike doughnut-shaped ring positioned within the bore of the washer."

That ring is shown here. It has cross-section lines on it. The ring is shown here where it is in solid black.

"* * * said ring having a diameter greater than

(Testimony of Robert C. Comstock.)

the thickness of said washer and being confined in said washer with opposite sides thereof normally protruding from the opposite faces of the washer."

Referring to the upper left-hand figure there, you can see that the sides are normally protruding, that the diameter is greater.

Referring to the defendants' Duo-Seal, the diameter is greater and the sides are normally protruding.

"* * * whereby upon the underside of the head of the fastener compressing the rubberlike ring against a portion of one contiguous wall of the tank being fastened together."

That compression is shown in the lower figure.

"said ring is deformed into sealing contact with the bore of the washer, the shank, the head [124] of the fastener, and said contiguous portion of said wall."

That is the four-way compression that I spoke about earlier. Here is your contact at the top with the head, at the bottom with the wall, at this side of the washer, and over here against the shank.

Then in the illustration of the defendants' Duo-Seal, again you have those four points of sealing contact with the shank, the head, the washer, and the wall.

Is there anything else on this chart you want?

Mr. Lee: I believe that's all, Mr. Comstock.

(Witness resuming stand.)

Mr. Lee: Will you mark this for identification?

The Court: It may be marked.

(Testimony of Robert C. Comstock.)

The Clerk: 87 for identification.

(The exhibit referred to was marked as Plaintiffs' Exhibit No. 87 for identification.)

Mr. Lee: Plaintiffs' Exhibit 87 for identification is a sample section cut away showing the installation of a bolt in a Lock-O-Seal cut away so that you can see the interior of it.

Q. I hand you Plaintiffs' Exhibit 87 and ask you if that illustrates the condition shown in figure 3 of the patent drawings.

A. Yes. This shows the Lock-O-Seal in a sealed position. [125] This is a complete installation like shown in figure 3, except that slightly more than one quarter section has been cut away in order to show what takes place within the construction, which would not be evident from the outside.

The Court: May I see that?

The Witness: Surely. The black part there is the washer.

Mr. Lee: I would like to offer in evidence 86 and 87 as illustrative of the witness' testimony.

The Court: They may be received in evidence.

The Clerk: Exhibits 86 and 87.

(The exhibits referred to were received in evidence and marked as Plaintiffs' Exhibits 86 and 87.) [126]

* * * * *

Cross Examination

Q. (By Mr. Miller): Mr. Comstock, I believe you testified that you had testified as an expert in one other case in this district?

(Testimony of Robert C. Comstock.)

A. No. There have been three other cases in this district, and one in the state court of California, Superior Court.

Q. Here in the District Court, were you called as a witness by the plaintiff or the defendant?

A. Well, I think it has been by both. I would have to review them. Let's see. The first case, it was against the patent, although I can't say whether that was a declaratory judgment action or not.

Then the next case was, I believe the second one was for the patent, and I can't recall again, I think that definitely was a declaratory judgment action.

Then the third case was for the defendant.

The one in the state court was for the defendant, although they had filed a counterclaim there.

Q. You say you were called for the patent or against the patent in some of these cases?

A. Yes. It has been both for and against the patent.

Q. When you were called for the patent, was the patent held valid and infringed?

A. In one case where I was called for the patent, it was settled out of court with a consent decree holding the patent valid.

In another—let's see. There have been two others. The patents were held invalid, and then the fourth one, it was not directly a question of patent validity. This case was in the state court. It was more a question of whether the owner of the patent had a right to make a claim of infringement, and that case was decided favorably to the party that I testi-

(Testimony of Robert C. Comstock.)

fied for, but it was not really an action for patent infringement.

The Court: Mr. Miller, if you had a jury, maybe this line of questioning would have some effect, but as far as I am concerned, you are wasting your time. [130]

Mr. Miller: Very well.

The Court: I am not interested in what this witness has done in other cases. I am interested in what the patent says here and his opinion in this case.

Mr. Miller: Very well.

Q. Now, referring to this claim that you have testified to. A. Yes, sir.

Q. It says "means for sealing the walls of a tank * * *"

Did you study the brochure from which you enlarged the defendants' construction?

A. 1104-D?

Q. I have reference to——

A. I believe that is the number of it.

The Court: Well, now, Mr. Miller, the patent itself provides a definition of the word tank. It says the word tank as used in the claims should be understood to include any sort of tank, pressure vessel, fluid container, gas chamber or the like. They have already defined what they mean by the word tank.

Mr. Miller: I really want to inquire as to whether it is even broader than that.

Q. Would the term tank in your estimation cover any situation where you have a wall where

(Testimony of Robert C. Comstock.)

you want to stop a flow of any kind of a fluid, whether it is liquid or gas, [131] through the wall around the fastener?

A. Well, I think that is really two questions. You mean whether this device would work in that situation? I assume it would work if the pressure or the corrosive material or temperature or other factors involved were not deleterious to the rubber used.

Then as to whether they meant that by the word tank, that I think you would have to construe in terms of the patent. They said any sort of tank, pressure vessel, fluid container, gas chamber or the like. That seems to cover almost anything.

Q. What is this "or the like"? Would that be broad enough to cover any situation where you have a wall, then some kind of fastener going through it, and you want to stop the flow of any leakage of any kind of a fluid?

A. Yes, I should think so.

Q. Now, you have never seen any of the defendants install any of their fasteners, have you?

A. No, I have not.

Q. Have you done any testing of these seals?

A. No, I have not.

Q. Have you applied any of them?

A. I have not myself applied them. I have seen them applied on the exhibits here, but I have not applied them.

Q. This consists of a washer. Is this a retainer or [132] washer?

(Testimony of Robert C. Comstock.)

A. Yes, that is the washer. The term washer is used in the claim, but it corresponds to the part that is called a metal collar 21 in the specification.

Q. Considering the metal retainer alone, that's all it amounts to, is a metal washer?

A. Physically, yes, it corresponds to a metal washer.

Q. And in relation to the size of the fastener, it is just an oversized washer, isn't it?

A. That's right. It has a larger opening in its inner diameter than a conventional washer would have for this type of bolt.

Q. And the rubber part of this seal, considered by itself is nothing more than an O ring that has been known since the thirties.

A. That's right. It corresponds in shape to an O ring.

Q. We go down here where it says, "and a rubber doughnut-shaped ring." Have you inspected the defendants' seals? A. Yes, I have.

Q. Do you know the shape of the bore of the washer that the defendant uses?

The Court: The shape of the bore of the washer?

The Witness: You mean the metal washer?

Q. (By Mr. Miller): Yes, that the defendants use. [133]

A. That the defendants use, yes. I believe it has a straight—in section, it represents a straight line, and in configuration it is circular. Is that what you mean?

Q. For the time being, let's talk about the sec-

(Testimony of Robert C. Comstock.)

tion. In other words, you would say it is straight, vertical from top to bottom.

The Court: Mr. Miller, your question is not entirely clear. You use the term washer. Now, we have two washers here. We have the metal washer and the rubber washer. When you say the washer, are you referring to the metal washer?

Mr. Miller: The metal washer, and when I refer to the rubber, I will say the rubber or O ring, or something of that character. I am trying to keep my terminology straight.

The Court: I know, but I must always consider that this case may be appealed, and the Circuit only has the record. I may understand what you mean, but it is important that the Circuit understand.

Mr. Miller: I will try to keep it clear, your Honor.

Q. Now, in the patent in suit, the rubber ring——

The Court: Just a minute. Let me interrupt for just a minute. You asked him if he had examined the defendants' Exhibit 8.

Mr. Miller: It is the defendants' O ring, but it is [134] Plaintiffs' Exhibit 8.

The Court: Yes, Exhibit 8. You say you have examined that exhibit?

The Witness: Yes, I have.

The Court: Have you examined the rubber or the O ring?

The Witness: Not apart from that. In addition

(Testimony of Robert C. Comstock.)

to this, I have seen the drawings that were prepared by the defendants showing the way they contend it is made, and the blow-ups.

The Court: That is an O ring, isn't it? The defendant uses an O ring.

The Witness: Well, not exactly, your Honor. An O ring is a loose ring that is circular in configuration and circular in cross section. Now, here, this is not loose. It is attached to the washer, and there is some additional rubber in it.

The Court: Assuming that it was not attached to the washer, before it was attached to the washer it was an O ring, wasn't it?

The Witness: There would be a little additional rubber in the defendants' structure, your Honor, in order to achieve this bond between the O ring and the metal washer.

The Court: What I want to find out is, do you consider this doughnut-shaped? [135]

The Witness: Yes, I do, your Honor.

The Court: What is a doughnut-shaped ring?

The Witness: Well, I would say a doughnut-shaped ring is a ring which is circular in its configuration.

The Court: All the way around?

The Witness: All the way around, and which is somewhat rounded off at its corners in order to provide an area, a void, so that it can be deformed into this void as shown and described in the Gross patent. In other words, it would have to have portions rounded off or taken away at the corners,

(Testimony of Robert C. Comstock.)

and the Gross patent, it is all four corners, and this one, I am not sure whether it is entirely two corners or whether there is some void in the other two corners, but there is room for deformation of this.

The Court: Let's assume for just a moment that this is an O ring, but it is not circular the whole way around, that is, the outside is flat. Would you consider it doughnut-shaped?

The Witness: Well, what do you mean by flat? You mean it would be a square in contour?

The Court: Square.

The Witness: If it were square, no, it would not be doughnut-shaped, because it couldn't function in the manner shown in the patent.

The Court: I am not asking you that. By doughnut, [136] you mean it has to be circular all around.

The Witness: Not completely circular. I would say it has to be either—you can use the term rounded or substantially circular. Particularly at the corners, it would have to be rounded off or sheared off.

The Court: But if it was circular or rounded off on three sides and was not on the fourth side, it was flat, that wouldn't be doughnut-shaped?

The Witness: No, that would be doughnut-shaped. It would still function properly.

The Court: I am not asking anything about the function. I am trying to find out what you under-

(Testimony of Robert C. Comstock.)

stand by the word doughnut-shaped. That is what I am trying to find out.

The Witness: I think you have to consider the term doughnut-shaped in connection with the end of the claim where it says that the ring is deformed into sealing contact at the four places.

The Court: I don't care anything about where it is deformed. I don't care anything about what happens to it after it is used. In figure 2 of the patent, numeral 20, it shows a round ring.

The Witness: That's right, your Honor.

The Court: Which is, I assume, doughnut-shaped?

The Witness: Yes. [137]

The Court: What I want to know is, supposing you cut that in half. Supposing you cut that ring in half, so you only had a half circle instead of a full circle. Would that still be doughnut-shaped?

The Witness: No, I don't think it would, your Honor.

The Court: Supposing you cut it in three quarters, so that it is only three-quarters round and the other quarter was flat, would that still be doughnut-shaped?

The Witness: There again I think you would have to consider it in connection with the operation.

The Court: I don't want you to consider it in the operation.

The Witness: All right.

The Court: I want to know what you mean by

(Testimony of Robert C. Comstock.)

doughnut-shaped. I know what a doughnut is. We can go out and buy a doughnut and bring it up here. I know what a doughnut looks like. It is rounded all the way around. Does a doughnut shape mean rounded all the way around?

The Witness: I don't think it would have to be all the way around. You see this term in claim 2. Considering that in reference to claim 2, in claim 2 they say, "a rubber-like ring having a body of circular cross section." That means it has to be completely circular.

Now, distinguishing between that and claim 1, when [138] they use the term doughnut-shaped, I would say that is a broader or less definite term than circular in cross section. I would say it means substantially circular in cross section or substantially round.

Just where you are going to draw a line between what is and what is not round, I think you have to decide by each thing. I think the one defendant has here is doughnut-shaped and is substantially round.

The Court: May I have that other exhibit with the other ring on it, Mrs. Smith?

The Clerk: I think you have all the exhibits.

The Court: Oh, here it is.

Now, I want to call your attention to Exhibit 82. We have an O ring used in 82, haven't we?

The Witness: There again it is not technically an O ring. It is similar to an O ring.

(Testimony of Robert C. Comstock.)

The Court: Would you call that doughnut-shaped?

The Witness: Yes, I would.

The Court: It appears to me from looking at it that it is not circular all around, but has a lip on it.

The Witness: It has one lip on one side, that's right.

The Court: It has a lip on it on one side.

The Witness: But the rest of it is rounded, starting from the washer here, to come up and around the back to [139] that, and you have one slightly straight side, which you need in order to bond it to the metal.

The Court: Then doughnut in your opinion does not mean circular all the way around.

The Witness: That's right, not all the way around. You could have one little flat portion on one side, and I think it would still be doughnut-shaped.

The Court: 82 has more than a little section flat. It has, I would say, at least a quarter. There is a lip here on 82. Don't you think that that lip uses at least a quarter of the circular area?

The Witness: No. I think it would have to be less than a quarter when you consider the fact that this rubber O ring here protrudes on both sides here, so that you must have, coming up and around here, I think you would have more than a quarter, although you would have to have a drawing of the thing in section to be sure of the exact proportion.

(Testimony of Robert C. Comstock.)

It would probably be a quarter, more or less. I would be inclined to say less.

The Court: It is your opinion that is doughnut-shaped?

The Witness: Yes, sir.

The Court: All right. That's all I want to know. All right, Mr. Miller.

Q. (By Mr. Miller): Well, can the rubber ring —as I [140] understand you, the rubber ring can have the outer wall flat, straight vertically top to bottom, and still be doughnut-shaped?

A. Yes.

Q. And it can have serrations on the exterior surface, such as you have in Exhibit 82, and still be doughnut-shaped?

The Court: What do you mean by serrations?

Mr. Miller: Well, these notches or protuberances.

The Witness: That go out beyond the straight side there. Why, I don't think those, since they go toward and into the washer, I don't think that they would affect the shape or form of the remainder of the O ring. I would say that they are out of the working area of the O ring so that they wouldn't affect it one way or the other.

Q. (By Mr. Miller): The fact that the O ring at the top and bottom has flat portions, as we have here in Exhibit 82, that does not prevent the ring from still being doughnut-shaped?

A. What do you mean by flat portions? Do you mean the part that goes into the washer, or

(Testimony of Robert C. Comstock.)

do you mean the O ring itself has flat portions?

Q. Well, I only see a rubber ring inside of the metal washer here. A. Yes, sir.

Q. And outside of a little circular lip here, there [141] seems to be an area that is flat between the innermost metal projection and that flat lip.

A. Yes.

Q. And that is flat?

A. Yes. I wanted to make sure we were talking about the same thing. I would say that would not affect it because, as I said before, that is outside of the working area of the O ring and its purpose is to achieve a bond between the O ring and the washer, and the fact that you have additional rubber there would not in any way add to or detract from the function of the O ring itself, so that it would not change its operation in any way.

The Court: The trouble is you are talking about function. You are talking about what it does. You are not talking about what it looks like.

The Witness: All right. Take it in terms of shape, then, your Honor. The shape from the edge of the washer on into the washer has no effect whatsoever on the operation of the O ring. You see, the fact that you have a little rubber projecting here into the washer merely gives you an additional bond betwen the O ring and the washer. It has nothing to do with the operation of the O ring in the sealing and therefore it has nothing to do with whether it is a doughnut-shaped ring.

The Court: I got your statement a little while

(Testimony of Robert C. Comstock.)

ago [142] to the effect that you consider this a doughnut-shaped ring.

The Witness: That's right.

The Court: Well, that's what he says.

Q. (By Mr. Miller): Considering the patent in suit or the drawing of it, instead of having the O ring circular in cross section, suppose it was square in cross section or rectangular in cross section. Would it still be doughnut-shaped?

A. No, I don't think it would.

Q. If you rounded off the corners, would it still be doughnut-shaped or would it not be doughnut-shaped?

A. Well, I think you would have to be a little more definite about it, about the actual contour, but I would say if you round them off, then where you have got a substantial area there in the corners, it would be doughnut-shaped because by that time it would be essentially circular in its cross section.

Q. Suppose it were octagonal in cross section, would it be doughnut-shaped?

A. I would be inclined to say it probably would be in an object of this dimension, because I don't think you could achieve perfect angles, and I think when you made a thing like this octagonal, it would come out round. You wouldn't be able to tell the difference between octagonal and round.

Q. I would still like to have an answer to the question. [143] Would the octagonal ring be doughnut-shaped or not?

(Testimony of Robert C. Comstock.)

A. I think it probably would be. I would have to see such a ring. As I say, I think it would come out so you wouldn't be able to tell whether it was octagonal or circular without putting it under a microscope.

Q. Supposing it were hexagonal in cross section; would it be doughnut-shaped?

A. There again it would depend upon how perfect these corners were. If they were rounded, as they probably would be in construction, it probably would come out doughnut-shaped, but I couldn't be sure until I saw one. It might or might not.

Q. Supposing it were pentagonal in cross section; would it be doughnut-shaped?

A. I rather doubt it but there again I would have to see one and see how it physically came out. If you have a bunch of angles in there, it isn't going to achieve the purpose you want. On the other hand, if it is sufficiently round, it will do it.

Q. How much do you have to round off the corners of a square ring in order to convert it from a square rubber washer into a doughnut-shaped rubber ring?

A. You would have to round it off enough so that when you deform the ring, it is pressed into sealing contact with the four sides of this rectangle area that the ring is mounted [144] on, so that you have a substantial sealing contact brought about.

Q. Can you tell me that in the form of a proportion or percentage?

(Testimony of Robert C. Comstock.)

A. Well, ideally in terms of percentage, you would like to have this rectangular void or area there 100 per cent filled with rubber so that there would be a perfect sealing. In actual use, it is probably advisable to go under that so that you have no danger of extruding the rubber.

In terms of percentage of the void there, I couldn't tell you exactly what would be perfect, but it would have to be a substantial percentage of the space there so that you would get a substantial deformation of the O ring into this area.

Q. Well, in this situation you have a space defined by the metal washer, the head of the fastener, and the wall of the tank.

A. That's right.

Q. In the case of the patent, that is rectangular in cross section. A. That's right.

Q. You said the desirable thing is to fill that space up with rubber.

A. Yes, when it is in sealing position.

Q. What they are doing here is putting a round rubber [145] in there to fill a square hole, is that it? A. That's it.

Q. Why don't you put a——

The Court: Let me ask a question. According to the claim, the ring is deformed.

The Witness: That's right. I think that——

The Court: Just a minute now. What difference does it make whether it is round or rectangular? Why wouldn't a rectangular or a square ring do just as well?

(Testimony of Robert C. Comstock.)

The Witness: That is exactly the essence of the invention, your Honor. You have hit it right on the head. If you put a square ring in there and then you apply pressure to it, nothing happens. If you put a round ring in there and you apply pressure to it, you deform this ring into a square shape. This ring wants to go back to a circular shape, and in trying to go back to a circular shape, it exerts pressure against all four sides of this area, greater pressure than you would get if you had a ring of square cross section, and when Mr. Miller says you put a round O ring in to fill a square space, that is exactly the essence of the invention. That is what nobody did before, put a round ring in to fill a square hole.

It doesn't make sense until you see the operation of it, and then it makes sense.

The Court: In your opinion, the invention was to [146] put a round ring——

The Witness: In a square, in a rectangular opening.

The Court: That is the invention?

The Witness: That's right, and to deform that into sealing contact.

The Court: Well, any ring or any kind of seal would be deformed under pressure, wouldn't it? Suppose you put an aluminum ring in instead of a rubber, and you bolted this down and put on pressure. There is a tendency to deform the ring, isn't there, regardless of the material?

The Witness: That's right, but this has to be

(Testimony of Robert C. Comstock.)

deformed in such a manner that it can be reused. In other words, it can't be extruded. You see, this is used on an airplane where it may be out in New Guinea or someplace and the man has to take it apart and put it together again, so that he has to have a bolt and sealing device he can take off and put on again. If you put an aluminum or something in there which changes its shape and stays in that changed shape, then it can't be used again.

This thing, when you take the fastener off, your O ring goes back to its circular contour. When you put it back in, the same function is achieved again.

The Court: So the invention is to change it from rectangular—— [147]

The Witness: From round to rectangular with a—I would make one additional provision, and that is you have a metal-to-metal contact between the head, the washer and the wall that it is being fastened to.

The Court: Can you tell me whether or not you know of any O rings that were used that were round?

The Witness: O rings are round and they were used, but they were never used in this manner. An O ring is customarily used in a moving application. [148]

* * * * *

Q. (By Mr. Miller): In your Exhibit 82——

A. Exhibit 82? Is that the Stat-O-Seal?

Q. ——would you say that the rubber in this

(Testimony of Robert C. Comstock.)

exhibit is about half and half, that is, the inner half of the rubber is round and the outer half is square?

A. I am not sure that I understand what you are getting at, but I think that the rounded part of the ring here is more than a semi-circle. It is substantially more than a semi-circle, so it must be more than half of the area that is rounded. I would say it is closer to probably three-quarters.

Q. Well, the outer one-quarter then, is square, that quarter that is next to the metal is square in cross section?

A. Well, you can't tell exactly what they have got here where it goes back into the washer, but if you took the line of the washer as defining the end of it, yes, you would say it is square.

Q. It is square next to the wall of the washer?

A. As I say, I can't see exactly what is in there, but if you take the line of the washer as defining the end of the rubber, why, then, it would be a straight line.

Q. Now, let's get to this word deformation, deformed. What is the meaning of deformed?

A. To change the shape, I would say. [150]

Q. When you put that Exhibit 82 between the head of a fastener and the wall, that inner one-quarter, which we say is square, and which is against the metal of the washer, is that deformed?

A. Taking that part of it, looking at that part alone, that is not deformed. The ring is deformed.

(Testimony of Robert C. Comstock.)

That particular part of it is not necessarily deformed.

Q. In the defendants' construction, Exhibit 8, is that portion of the rubber that is lying against the metal deformed?

A. That particular portion is not deformed. The ring is deformed. That portion is not deformed.

Q. Would you interpret this part of the claim, "whereby upon the underside of the head of the fastener compressing the rubberlike ring against a portion of one contiguous wall of the tank being fastened together"—this is the important part—"said ring is deformed into sealing contact with the bore of the washer * * *"

In the case of an O ring or a ring of rubber having circular cross section, is that true?

A. Yes, it is true.

Q. And that occurs here at the little space between the top edge of the ring and the top curve of the washer?

A. Well, yes, because sealing contact occurs along the entire wall of the washer there. [151]

Q. And you fill that little space?

A. That's right.

Q. And you change the shape of the O ring, rubber ring, deform it and fill that space?

A. That is correct.

Q. And you also have a similar space down here at the botom? A. That's right.

Q. Between the bottom edge of the bore of the washer and the bottom curvature of the O ring?

(Testimony of Robert C. Comstock.)

A. That's right.

Q. And it is deformed into sealing contact with that cylindrical surface that constitutes the wall of the bore of the washer? A. Yes.

Q. And that is what this means, this statement here, said ring is deformed into sealing contact with the bore of the washer?

A. When considered in connection with the circular ring, that is what it means, yes.

Q. It also says down here it is to be deformed somewhere else, doesn't it? It says it is to be deformed into sealing contact with the shank.

A. That's right. There is one deformation that takes place. It is deformed into sealing contact with four [152] places.

Q. Four places? A. Yes.

Q. In Exhibit 82, do you have deformation at all four places?

A. Well, I don't think the claim says you have deformation at all four places. It says the ring is deformed and it is deformed into sealing contact at all four places, and you do have a deformation with this ring 82 and you do have a sealing contact at all four places.

Q. But do you get the sealing contact with the bore of the washer by reason of deformation of the rubber ring? A. Yes, you do.

Q. Isn't it in sealing contact right now?

A. No, it is not in sealing contact in the sense that it is meant in this claim. Could I use the board to illustrate?

(Testimony of Robert C. Comstock.)

Q. Can liquid flow between the rubber and the wall of the bore of the washer in Exhibit 82?

A. Probably not.

Q. It is already——

A. You have a bond. You don't have a pressure seal. You have a bond there.

Q. It is already in contact with the——

A. In contact, yes, not in sealing contact, not in the [153] sense of a pressure contact. There is no pressure between the two.

Q. If that rubber ring or that portion of the rubber ring that is lying against the wall of the bore of the washer is subjected to pressure, there is no place for the rubber to go, is there?

A. No, there is no place for it to go.

Q. Therefore, it couldn't be deformed?

A. Well, that portion of it could not be deformed, but the ring itself is deformed.

Q. But that portion couldn't be deformed into sealing contact?

A. That portion is not deformed, but that portion is brought into sealing contact which did not exist before the deformation.

Q. I thought we agreed it was already in sealing contact with the wall of the bore of the washer.

A. No, we did not. I agreed it is in contact, but not that it is in sealing contact. Could I use the board to explain that?

Q. Yes.

(Witness going to board.)

A. I am a miserable artist, but looking at it

(Testimony of Robert C. Comstock.)

this way, this is your O ring and this is your washer here. You have a contact there between the two, and you have—— [154]

Q. Just a moment. To clarify it, is the rubber supposed to be round or is it supposed to be molded against the metal?

A. It is supposed to be molded in the sense that the Stat-O-Seal, Exhibit 82, or in the sense of the defendants' Duo-Seal—I am not sure of the exact structure here, but that is unimportant for this purpose. We have rubber here and then we have the metal washer or retainer ring, and we have another element there which we will call the bond. That could be actually glue, it could be a physical element in there like glue, or it could be a chemical action, such as vulcanization, or whatever method is used. You have a contact there between the two, between the rubber and the metal, which is brought about by the bond. If you deform this rubber, then you bring about a pressure here which brings about a sealing contact between the rubber and the metal, which is something that does not exist before.

When you take this out, when you hold it in your hand, there is no sealing contact there in the sense that pressure is being exerted by the rubber against the metal. You take the bond away, take that element out, and you take the two apart. If you deform this into sealing contact here and you took the bond away, if you could, by a chemical being put in there and dissolving that bond out, you would still have sealing contact between the rubber

(Testimony of Robert C. Comstock.)

and the metal, so you [155] have got something there that you did not have before and you brought about by deformation of the rubber.

It is true that there is no visible deformation of this portion of the rubber here, but there still is a pressure element, there is a physical change that takes place there that did not exist before, so that is why I say when you deform the rubber that you bring it into sealing contact with the washer.

Q. Let's refer to Exhibit 81 for a moment. Here the rubber is in contact with the inside of the bore of the washer.

A. That is correct, yes.

Q. Is it in sealing contact with it?

A. Well, I think it would depend on how you define sealing. There is a seal there. There is a physical or chemical seal. There is not a pressure seal.

Mr. Lee: Which one is that?

The Court: Then your answer is, if it touches, there is a seal.

The Witness: I am sorry. I thought we were talking about the Duo-Seal. I see now that these two are separate. This is the Lock-O-Seal. I'm sorry. Now, the question was whether there is a sealing contact between, when it is in a loose condition like this?

Q. (By Mr. Miller): Well, one thing is inside the other [156] there in your hands right now. Is there a sealing contact between the rubber and the metal?

(Testimony of Robert C. Comstock.)

A. Essentially, no. There is a light contact there, but it wouldn't be enough to be called a sealing contact.

Q. It is not a sealing contact? A. No.

Q. And you gain a sealing contact in that case by applying pressure axially to the rubber and squeezing it? A. That's right.

Q. And you don't have a sealing contact until you do do that? A. That's right.

Q. And you gain it by the fact that you change the shape of that portion of the rubber that is laying next to the wall of the bore of the washer?

A. That's right.

Q. And you don't gain that sealing contact until you do squeeze the rubber and have that deformation? A. That's right.

Q. When you have a piece of rubber molded and vulcanized to the metal from the top to the bottom of the metal—— A. Yes.

Q. ——you have sealing contact between the rubber and the metal to start with, don't you?

A. Yes. You have what I would say you would call a [157] chemical or physical sealing contact as opposed to a pressure sealing contact.

Q. And when you put axial pressure on that situation, you do not deform any portion of the rubber that is in contact with the metal, do you?

A. Well, I wouldn't agree on that, when you say you do not deform any portion of the rubber which is in contact with the metal, because you

(Testimony of Robert C. Comstock.)

would have a deformation or a stress set up in the portion of the rubber that is right directly adjacent to the metal. It wouldn't show in the outer edge of it, but certainly the rubber right up to that point is deformed internally and is under stress. There would be no physical signs of it.

Q. Can you have rubber or any material under stress without having it deformed?

A. Yes. You just said that there was no deformation of any portion of the rubber that was next to the metal. I didn't agree with it in those terms, because your deformation comes very close there. You would have deformation right underneath and on top and then you would have deformation in the sense of a force or a stress set up within the rubber. If you are talking about deformation of the external contour, there wouldn't be any. If you are talking about the internal type of deformation, there would be.

Q. Isn't it the external form of deformation that you are [158] talking about in your claim?

A. Yes, that is mostly what they talk about, but both things occur. I mean it is a complete deformation.

Q. This external form deformation that they are talking about here in the claim, that doesn't exist in the Exhibit 8, which is the defendants' construction, does it?

A. Well, that does not exist along that limited portion there. In other words, there is a deformation of the O ring, clearly there is a deformation,

(Testimony of Robert C. Comstock.)

but there is no deformation along that little particular part where it is up against the metal washer. Assuming that there is a complete contact from one end of the metal to the other with the rubber, which I am not exactly certain of, but assuming that, then there would be no deformation.

Q. Will you agree with me that if the use of deform, the word deform in this claim refers to physical deformation of the circular rubber O ring, that is change of shape of it, into sealing contact with the bore of the washer, that that does not occur in the accused construction, Exhibit 8?

A. No, it definitely does occur. The claim calls for the ring being deformed. It doesn't say half way part of the ring has to be deformed. It says that the ring is deformed into sealing contact. The ring is deformed. I think you have agreed it is deformed into sealing contact on the other three sides. That leaves only that fourth side. I think the [159] ring is deformed into sealing contact with that fourth side for the reason that I have pointed out, that you have a sealing contact there, a pressure of the rubber of the O ring against the metal washer that did not exist before. You have created a new sealing contact in addition to the bond that existed before, so that you have a bond plus the sealing contact brought about by the deformation of the rubber. If you took away the bond, you would still have a perfect seal. If you could get in there and destroy the vulcanization between the rubber and the metal O washer, you would still have sealing

(Testimony of Robert C. Comstock.)

contact. Therefore, it must be there. It is there when you deform this ring.

Q. It was already there before you even started out.

A. No, it was not there. There was only a chemical or physical bond. There was no pressure type sealing contact. There was just a connection of the two, but there was no pressure between them.

Q. Well, we can approach it this way. In the patent in suit, the O ring, when it is positioned between the head of the fastener and the tank wall, you have the O ring that is not in sealing contact with anything before you start tightening up your fastener. A. That's right.

Q. Then the claim says the ring is to be deformed on tightening the fastener into sealing contact at four places. [160]

A. That's right.

Q. And what are those four places?

A. The bore of the washer, the shank, the head of the fastener, and the contiguous portion of the wall.

Q. In other words, you are to obtain your sealing contact at all four places by the fact that you tighten the fastener? A. That's right.

Q. Now, will you agree with me that in the accused construction you only obtain sealing contact at three places?

A. No. Actually you start off with one. In the patent in suit, you start off with no sealing contact, and by deforming it you achieve four. With the

(Testimony of Robert C. Comstock.)

defendants' structure, you start off with one physical sealing contact, and you deform it and you achieve four, just like in the patent in suit. So you end up with five sealing contacts, two of which overlap. You have one along the edge of the washer. You have two types of sealing contact there. One is the bond and the other is the pressure of the rubber against the washer.

Q. Now, are you talking about the second seal due to the pressure? A. That's right.

Q. Is that due to pressure or due to deformation? A. It is due to deformation.

Q. Well, is the ring deformed? Does the shape change? [161]

A. Certainly, the shape of the ring changes from round to rectangular in cross section.

Q. Against the bore of the washer?

A. We are going back to that again. That particular part of it is not deformed, but the rest of it it deformed, so that you can't say the ring is not deformed, because one little part of it is not deformed. The ring is deformed.

Q. But this claim says that the ring shall be deformed at all four places.

A. No, it does not. It says the ring shall be deformed into sealing contact with all four places, and it is deformed into sealing contact with all four places. It doesn't say all four points of it have to be deformed.

Q. In the defendants' construction, instead of

(Testimony of Robert C. Comstock.)

being deformed into sealing contact, it is already in sealing contact.

A. It is already in sealing contact at one of these four places, and it is additionally deformed into sealing contact at all four places so that one of them overlaps. You don't have a four and three situation. You have four and four, where the fourth overlaps one presently existing seal.

Q. Coming back to this, does the shape—again I will show you Plaintiffs' Exhibit 15 for identification. I call your attention to the pages in here identified as Termin-O-Seal. I call your attention particularly to the shape of [162] this rubber here. Is that doughnut-shaped?

A. Yes, I think it would be.

Q. It has a flat top?

A. Yes, and there is one flat—there is a flange there, you might call it, or shoulder, in addition to the rounded or circular portion which projects from one side, but I don't think that would change the essentially rounded or circular portion there, which is certainly more than a semi-circle. There again you have got at least an approximately three-quarters of a circle.

Q. Then the fact that the rubber ring has a flat top does not prevent its being doughnut-shaped?

A. No. I think if a portion of it is flat, it doesn't prevent it from being doughnut-shaped.

Q. I call your attention also to the pages in here identified as Gask-O-Seal. We have one page here with a Gask-O-Seal showing installation, and an-

(Testimony of Robert C. Comstock.)

other page showing an enlarged cross section. I call your attention to the shape of the rubber here, the cross sectional shape of it. Is that doughnut-shaped? A. I think it is.

Q. And the fact that the rubber has an inside straight wall, this would be the inside, I assume, straight wall, and an outside straight wall, doesn't prevent its being doughnut-shaped? [163]

A. I think that is a little misleading. I was looking at it in the contour of the inner portion. It is a little hard to describe here, but you have got a straight wall and then it comes over and tips down, and then it starts the rounded portion, and that is—looking just at the rounded portion, there is an ellipse, or something along that line. It doesn't have really much of a straight portion to it. In other words, taking it right across here, if you straighten out those lines, you would have a sort of an oval probably, but the best way to describe it is that you would have a couple of flat portions on opposite sides of the oval, but that type of a shape would probably work. If it would not function in the Lock-O-Seal, it would be because it is a little too long in one direction in proportion to the other. In other words, you can't get too far away from the circular there without reaching a condition where you are likely to extrude the rubber when you apply this pressure to it. Maybe this would go beyond that limit. I don't know.

Q. Well, I would like to get an answer to the question. The fact that I see here some metal on

(Testimony of Robert C. Comstock.)

the inside, and it has got a straight vertical wall, and some metal over here on the outside, it has got a straight vertical wall, and the rubber fits right against it or is shown as fitting right against it, those straight walls, the existence of those straight inner and outer walls does not prevent the ring from being [164] doughnut-shaped?

A. If you are going to say is all of this rubber merely doughnut-shaped, then the answer would be no, because you have got some additional things here, but I would say the center part of it there appears to be doughnut-shaped, but you have got a doughnut-shaped — taking those two halves there, they are split in half to start with, but if you put the bottom and the top together, I would say you have got essentially a doughnut-shaped center portion with a couple of ellipses or shoulders or flanges on each side, but the thing really comprises two halves to begin with, and then it has got these outer walls on it, so it has got other portions to it.

Q. Well, considering the rubber as a whole that you see in that view, is it doughnut-shaped?

A. I would say, considering that as a whole, it comprises a center portion which is substantially doughnut-shaped and with some additional shoulders on it. I don't know any other way to express it.

* * * * *

Q. (By Mr. Miller): Referring again to Plaintiffs' Exhibit 15 for identification and referring to the page identified [165] as one-piece Lock-O-Seal,

(Testimony of Robert C. Comstock.)

this seems to show an outer metal retainer with a rubber ring on the inside of it, with a metal fin on the metal retainer that goes into the rubber. Does the fact that you have this external cavity on that rubber, taking that into consideration, is that rubber ring doughnut-shaped?

A. In the picture you are pointing to, it is in a rectangular contour, but assuming that it was circular before then, then I would say it would be doughnut-shaped. The fact that a flange of metal went into it on one side, I don't think would affect it or change it in any way. The only one here that shows it before deformation is this perspective in the upper right-hand corner. I assume that is the same as this exhibit we have here, Exhibit 82. It looks like it anyway.

Q. Somebody has labeled this one-piece Lock-O-Seal, and this is the one-piece Lock-O-Seal.

A. Yes. They are both labeled the same, so I assume it would be the same, so apparently on this Exhibit 82 we have a metal flange of some kind going in there. It is not visible from the physical contour here and I don't see how it would affect the shape or operation of it if it is constructed as shown in this catalog.

Q. Then if the outer portion of the rubber at the top and bottom is flat and you have a fin going in from the metal, [166] as we see in the brochure, that still is doughnut-shaped rubber?

A. Yes, because all of this that takes place is just a means of mechanically bonding the rubber

(Testimony of Robert C. Comstock.)

ring to the metal washer and has no effect on the operation of the ring, so I don't think it changes it from being doughnut-shaped.

Q. Now, I will show you a copy of U. S. Patent to Hart, No. 67,539, issued August 6, 1867, and call your attention particularly to figure 5. If I tell you that the outer ring F is of metal and the inner ring E is of rubber, and I call your attention to this shape here, is that shape any criterion as to whether that ring E is doughnut-shaped or not?

Mr. Fulwider: Object, your Honor, to the introduction of the defendants' defense material at this time. It goes outside the scope.

The Court: He is not trying to introduce it. He is trying to find out what this witness means by the word doughnut.

Mr. Fulwider: I think, your Honor, he is referring to prior patents. That is the prior art and that has to do with defendants' case. There will be a proper time for him to put it on. This is not the proper time.

The Court: Overruled. It is only limited to the question of whether or not he considers that a doughnut shape. [167] That is substantially square in its sectional configuration.

Q. (By Mr. Miller): Do you understand out here on the outer side it is beveled off or angled off?

A. Yes, there is a little beveling off there, particularly at the point where it joins the metal washer, but you could draw a straight line along there, along that side that is enclosed by the washer,

(Testimony of Robert C. Comstock.)

and you would end up with substantially a square section, cross section for the rubber.

Q. I am directing my attention to the outer side of the rubber ring. As I understand you, it could either have an indentation in it, like we see in the one-piece Lock-O-Seal brochure, Exhibit 15, or it could also have the indentation the other way, as we see in figure 5 of the Hart patent, and it has either configuration, and it would still be doughnut-shaped as far as the outer side of the ring is concerned?

A. I am not sure I can follow all of that, if there is a particular question there. What is the question?

Q. As far as the outer side of the ring is concerned, in the Hart patent, the fact that it is beveled off here, that is or is not still doughnut-shaped, as far as the outer side of the ring is concerned?

A. By outer side of the ring, just for the record, you mean the side of the rubber ring that engages the washer. I don't think the contour of that side is particularly important. [168] The important part is the contour of the ring as a whole. In other words, whether it is substantially circular or whether it is rounded off so that when it is deformed it will form a sealing contact in this rectangular opening. In here, using your terminology, if you take the contour of the inner portion of the rubber ring, it is substantially square, rather than round.

Q. The reason that these seals are made round

(Testimony of Robert C. Comstock.)

in plan, round in configuration when you look down on them, is that they are designed to fit around cylindrical fasteners such as bolts and rivets. A. That's right.

Q. Suppose that the bolt or rivet happened to be oval-shaped in cross section, would you make the metal washer oval-shaped and the rubber O ring oval-shaped?

A. Certainly, your metal washer would have to be oval-shaped, because you couldn't deform it, assuming that you have a rigid metal washer. It would have to correspond in its contour. The rubber, you could probably take a pure circular one and put it around an oval shank, assuming you had your proportions right. You could do it either way, I should imagine. I haven't ever considered that proposition. I don't know.

Q. You just make the configuration of the rubber ring and the metal ring to conform to the shape of the cross section of the shank of the fastener that you are going to seal. [169]

A. You would necessarily, the metal, I think. As I say, you might or might not have to make the rubber ring. You might be able to use a circular rubber on it.

Q. Are you familiar with carriage bolts?

A. Is that a bolt which is square in cross section?

Q. Near the head of the bolt, they have a square portion. A. Yes.

Q. You have seen those?

(Testimony of Robert C. Comstock.)

A. Yes, I believe so. I have seen those.

Q. Suppose you want to seal a carriage bolt that had that squared portion. Would you make the metal ring and the rubber ring square to fit around that?

A. Well, you have got a different problem there. You could probably approach it either way. You could probably approach it with a circular ring and a substantially—that is a circular washer and a substantially circular ring, or you could probably approach it from a square one. I think if you sat down to work it out, you could probably do it either way, but I wouldn't be sure about it.

Q. To put the circular washer around the square portion of the carriage bolt, you would only have the rubber contacting the corners of the carriage bolt, wouldn't you?

A. Initially, that is true, when it wasn't under stress, but probably if you put a square retainer ring around [170] it, then you would probably force it into contact on all four sides, but certainly when you put a round piece of rubber around a square thing initially, you are only going to make contact at the four corners, unless you put some element in there to force it in.

Q. The natural thing to do would be to make a square washer, metal washer, and a square rubber ring?

A. I think that is probably the first thing you would do if you were trying to make that type of a seal.

(Testimony of Robert C. Comstock.)

Q. Would you say that the rubber when it was square configuration is still doughnut-shaped?

A. Well, the doughnut shape, I think, refers more to the sectional configuration of the ring rather than the overall configuration, because the claim says a rubber-like doughnut-shaped ring.

Presumably the word ring means the circular and the doughnut-shaped would mean more the cross section.

Of course, this phrase has to be interpreted in the light of the drawings and the disclosures of the patent, but I would say if you had the square in configuration, but you still had it rounded or substantially circular in section, that it would probably come within that term, doughnut-shaped ring.

I think you can have a square ring. [171]

Q. I will show you a copy of the Seligman Patent No. 2,191,044 and ask you whether or not the shape that we have here of the rubber shown in Figures 6 and 7 is doughnut-shaped.

A. Yes, I think that would be.

Q. Assuming that the rubber in this patent is bonded to the metal 15, how would that compare in shape with the shape that the defendants are employing?

A. Well, the defendants bring in the rubber more here, I think, more of an indentation, in order to avoid extruding the rubber in this corner. If you applied pressure on this the way it is constructed, you would probably have some extruding of the rubber at these two points. It is difficult to

(Testimony of Robert C. Comstock.)

determine exactly how the defendants' device is constructed in section, but as I see it, there is an indentation of some kind there so that it comes more like that, and then there is some sort of a little V or indentation at this corner there so that you don't have that chance of extruding or nipping the rubber.

Q. The defendants employ an outer metal ring similar to the ring 15 in Figs. 6 and 7?

A. No, that is not true. The element 15 here is a license plate shape. It goes around here. This is a substantially rectangular shape, where in the defendants' device it is a circular ring. This is a sort of gasket, I [172] guess you would call it.

Q. But didn't we agree here a minute ago that the term "ring" could be either a round ring or square ring? A. Yes, that is possible.

Q. And whether it is a round ring or square or rectangular or license plate shape, it is still a ring.

A. Yes, in the sense of using "ring" in the sense of something that encircles something, yes.

Q. All the metal ring does in this thing is to confine the rubber.

A. No, that is not all it does. It provides a metal-to-metal contact between the head of the fastener and the wall to which the fastener is applied. That is equally important to the confining of rubber.

Q. The metal-to-metal contact surface?

A. That's right. The head of the fastener or bolt to the washer, and the washer to the wall.

(Testimony of Robert C. Comstock.)

Q. Now, in the defendants' construction, the inside surface of the metal retainer is straight from top to bottom, such as we see here in Figures 6 and 7.

A. As I said, I don't think it is exactly like 6 and 7. I think that——

Q. Just answer the question, please.

A. Would you ask it again?

Mr. Miller: Read the question, please. [173]

(Question read.)

Mr. Lee: Your Honor, I would again like to object to this line of questioning. Now we have got beyond looking to see whether we have a doughnut and we are going to the construction of each one of these prior art patents, which are not yet in evidence, and which is part of the defendants' case.

The Court: That is true, but evidently the court is going to have to determine what is meant by doughnut shape. I assume that there is going to be a divergence of opinion from the experts as to what that means. I thought when I first read this I knew what a doughnut was. I have come to the conclusion I don't. I don't know who knows. This man has a right to his opinion. I think this is proper cross examination to find out what he is basing his opinion on.

Mr. Lee: Your Honor, I call to your attention that we are not now talking about this rubber ring.

The Court: Yes, we are.

Mr. Lee: Mr. Comstock testified this was in his

(Testimony of Robert C. Comstock.)

opinion a doughnut-shaped ring. Now we are talking about the entire structure.

The Court: Overruled.

The Witness: The part of the question I was answering was when you say the defendants' device is just like Figures 6 and 7, I was pointing out it is not, as I understand [174] it. There is a seal between the rubber and the metal, but, as I understand it, there is an indentation there so that you get an effect something like that, as far as I can tell. So that you have a straight line and then you have the rubber, being narrower in diameter toward the inner, as you put it, toward the inner surface of the ring, there is a point there of reduced diameter before it flares out again.

Q. (By Mr. Miller): Will you show me that? Do you see a similar construction here of 82?

A. Well, I would rather talk about your device, which is what I was talking about. This is 82. It is manufactured by the plaintiff. It is very difficult to show the principle. I would rather refer to some of those charts we had here yesterday. I believe the blow-up of your circular, 1104-D, shows that better. It is almost impossible to look at this and determine.

Q. When you said "this," you are looking at Exhibit 8.

A. Yes. I think this here shows that you have a —this is the indentation I am talking about, right in there, where the rubber ring is of reduced diameter, so that you have a sort of a little V-shaped

(Testimony of Robert C. Comstock.)

notch there, which you don't find in this Seligman patent.

Q. Then you can show it on the chart, but you can't show it on Exhibit 8.

A. I suppose you could put your finger in there or you [175] could put a piece of paper in there and catch it.

Q. Can you do that?

A. Well, this is so small here. Yes, I think it catches in there. As I say, it is so small, I am not certain in looking at it what the configuration is, but it seems to me there appears to be more of a dip on one side than the other in this particular one.

Q. Can you do it on Exhibit 82? Isn't that your paper catching there?

A. I think so. I think there is a dip in there.

Q. The same way? A. Yes, I think so.

Q. Now, the fact that the rubber has a straight surface from top to bottom, as shown in this figure, doesn't prevent that from still being a doughnut-shaped ring?

A. No. That fact alone doesn't prevent it.

The Court: He has testified that way two or three times, Mr. Miller.

Q. (By Mr. Miller): And this has the rounded interior, so that that has the doughnut-shaped ring in that regard.

A. Yes. The main difference between this and the Duo-Seal or another device which would work like the Gross patent is that you would have to prevent extruding of the rubber in the corners here.

(Testimony of Robert C. Comstock.)

Q. Are you saying that this is unsuccessful because [176] of the fact that it would extrude?

A. I think it would be unsuccessful, probably would be unsuccessful, if used in the Gross device, that is, if you constructed it, assuming you are going to construct one of circular configuration and with a cross section and everything as it is there.

Q. Have you done any testing to determine that? A. No, I have not.

Q. That is just your opinion.

A. That's right.

Q. Have you made any investigation to determine how close this chart, how accurate that is with relation to the actual device?

A. I have not done anything myself. I have seen micro-photographs that were made of the device, and I believe that they showed less of an indentation than the defendants put on their own chart, but I am not sure of that. I don't recall exactly because I didn't pay a great deal of attention to that phase of it.

Q. As far as you know, this was just prepared by an advertising agency?

A. As far as I am concerned, I do not know who prepared it.

Q. Now, we were talking a while ago about the hexagonal rings and the octagonal rings, and pentagonal rubber rings, [177] and so forth. You made some mention about the sharpness of the corners. Do I understand from you that in molding rubber it is impossible to obtain a perfectly sharp corner?

(Testimony of Robert C. Comstock.)

A. No, I didn't say that. I think many times when things are made out of rubber in a hexagonal or octagonal shape like that, your corners are actually rounded off. I wouldn't say it is impossible to make one. It would depend on the person making it and how closely they hold their tolerances, and so on, but I was just basing it on general experience with rubber things, that normally the corners are rounded. I wouldn't say it is impossible to make a square or a perfect rectangle, or whatever you wanted to do. I just state that probably my answer would depend on how things came out, because I think if you get too many angles in the thing, it is not going to work in the manner that Gross wants them to work and, therefore, it would not function and not come within the terms of the patent.

On the other hand, if you round off your corners, it probably would work, so I was trying to make a distinction between what is and what is not doughnut shape. It would depend a lot on how rounded those corners are. That is what I was getting at.

Q. Then if you start out with a rubber ring that is square in cross section, you are going to have in the normal course of manufacture rounded corners on it. [178]

A. A ring that is square in cross section is not going to work either, because there is no place for the rubber to go. If you put in a perfectly square in cross section or rectangular in cross section rubber ring in here and you apply pressure to it, your rubber has got no place to go. You can't reduce the

(Testimony of Robert C. Comstock.)

volume of it, so it could not be deformed into this sealing contact, so it would not work here. When you start rounding off the corners and you get a round configuration essentially, then it is going to work. As to drawing the dividing line when it does and does not happen, I don't think you can just sit down and speculate about it.

Q. I don't think you have quite answered my question.

A. I am sorry. What is the question?

Mr. Miller: Will you read the question, please?

(Question read.)

The Witness: Yes, I think that in ordinary manufacture you would, unless they were particular about achieving exactly square corners. If they wanted to watch it and reject every one that did not have exactly square corners, then they could certainly turn them out that way.

Q. (By Mr. Miller): And are those rounded corners to any substantial extent that you will get in molded rubber?

A. You are talking about some corners that don't exist now. The question is, are they to a substantial extent. I don't know. If you say they are, then they are. If you say [179] they aren't, they aren't. They are hypothetical.

Q. I show you Figs. 5 and 6 of the British Patent No. 537,654. I call your attention to Figures 5 and 6. In Figure 5, is that ring doughnut-shaped?

A. What do you mean by the ring?

Q. The ring in here is the inside part 7, which

(Testimony of Robert C. Comstock.)

is within a retainer 8, and it shows a cross section of it. Is that doughnut-shaped?

A. No, that is not doughnut-shaped. It appears to be square in its cross section.

The Court: It would be doughnut-shaped if you shaved off the corners?

The Witness: Yes, if you shaved them off enough so you get a substantially circular effect, then you have got a doughnut shape.

Q. (By Mr. Miller): If they were made in the normal course of manufacture, they would have rounded corners?

A. Oh, I would say in the normal course of manufacture, it would not have sufficiently rounded corners to make it operate like the Gross device, probably. There again, it is speculation.

Q. How much rounded corners do you have to have in order to get it to work like Gross?

A. Well, that is like saying how high is up. I don't know just where the dividing line is. Certainly Gross and the [180] Duo-Seal work effectively, so those devices are effective. This I don't think would be. The dividing line is somewhere in between. I would phrase it this way. You have got to have enough rounded or void in there so that you can deform the rubber into that void and achieve the sealing contact. I think you have to state it in terms of function, rather than in percentages. I don't know any other way to define it.

Q. Well, when we are talking about this deformation in this Exhibit 82, the only way that rubber

(Testimony of Robert C. Comstock.)

can deform is radially inward, isn't that true, when you tighten up your fastener?

A. No. You get deformation in the four corners. I think you probably have less deformation on your inner two corners there, less filling in.

Q. How do you get any deformation on these corners here that are out here by those little teeth, when they are already filled with rubber?

A. I thought we agreed there were some areas in there which are not. If there are no small areas there that are unfilled, there would be no void to fill. If there is a void there, it would be filled.

Q. Can you see any void there to be filled with rubber?

A. Yes, I think there is. I think I can feel one there. [181]

Q. In the nature of it, how much is it? A thousandth of an inch, one ten-thousandth of an inch?

A. I don't know. Just a small amount is about all I can say.

Q. I believe you testified in discussing the Gross patent that no one had ever put in a round ring in a square hole before or square cavity.

A. Well, they didn't put a round ring in a square cavity with the round ring being deformed into sealing contact with the four sides of the cavity and with a metal-to-metal contact between the bottom of the head of the fastener and the washer on the outside and the wall to which it is attached.

* * * * *

(Testimony of Robert C. Comstock.)

Redirect Examination

Q. (By Mr. Lee): I believe you testified earlier that you examined Plaintiffs' Exhibit 9 and the data sheet, 1104-D. A. Yes.

Q. I believe you——

Mr. Miller: What is it you are referring to here?

The Witness: That is the page with the illustrations on it.

Mr. Miller: All right.

Mr. Lee: For the record, 1104-D states it is a publication put out by Rubber Teck entitled at the top "Duo-Seals by Rubber Teck, Inc."

Q. You testified that the chart, Exhibit 85, was what?

A. That is a straight blow-up of the portion in red in the upper left-hand corner, or a portion of this circular 1104-D. We have two, in effect, red rectangles here overlapping, and it is all of the area up here with the section line AA, the term "O-ring," cadmium plated steel washer, it is that area right in there blown up about five or more times, probably.

Q. And the defendants' literature, 1104-D, what [183] terminology do they use to refer to the rubber part?

A. They refer to it as an O ring.

Q. Where do you find that terminology?

A. That is found at the top. They say O ring and washer, and then on the drawing they use the expression "O ring" and at the right side of this drawing, they say O ring twice, and then down be-

(Testimony of Robert C. Comstock.)

neath this portion that was blown up is the term "O ring" again, so it is on there about five or six times.

Q. Now, we have done a lot of talking this morning about the relationship between the rubber ring and the space within the retainer. What would you say was the relationship that must exist between the volume of the rubber ring and the volume of the space in which it is to go if you are to have a working part?

A. As I said before, I think the ideal relationship would be 100 per cent, that is, when the rubber was deformed, it would completely fill the void. Actually, you would probably want to shave that a little to avoid any chance of extruding the rubber.

Q. What would happen if you had more rubber than space to put it in?

A. If you have more rubber than the space, then your pressure is going to be against the rubber, rather than against the washer. You are going to lose the metal-on-metal [184] contact, and you are just going to tighten the head of the fastener down against the rubber. Over a period of time that pressure is going to cause this rubber to extrude out and destroy the sealing effect there.

Q. With reference to the Exhibit 86 and the drawing taken from the patent in suit, would you explain what you mean by that rubber extruding out too much?

A. When you tighten the head of the bolt down, you tighten it down with a considerable amount of

(Testimony of Robert C. Comstock.)

pressure against this washer, which pressure is in turn carried to the metal here, and that is usually measured with a torque wrench at the time you apply it so that you have a fixed amount of pressure existing there. If you had more rubber there than this void, then you would actually be putting your pressure on the rubber and you would get a false reading as to the amount of pressure that exists there, because the pressure would not be exerted on metal to metal. It would be on the rubber and the rubber would actually, due to this pressure, would flow between the head of the fastener and the top of the washer, or between the washer and this wall here, or out one of these places. It would be most likely to go out at one of these corners here.

When that happened, if your rubber did extrude out, then you would have less pressure between the head of the fastener and your wall here, because what was formerly existing [185] against the rubber would in effect disappear when the rubber extruded out, so that you would have a reduced pressure there. In other words, you would have a looser seal and then you would have more of a likelihood of leakage occurring. You would have a change taking place in the type of seal that you have there.

Q. You stated the rubber would have to be deformed. What causes the rubber to extrude under these conditions? What is the physical property of the rubber?

A. The rubber cannot be compressed in the

(Testimony of Robert C. Comstock.)

sense that it cannot change its over-all volume. This type of rubber that we are talking about here maintains a fixed volume. It is like whether you changed from circular to square, you still have the same amount there. Only a rubber like a foam rubber can be compressed down to where there is less there than there was before. So if you have got a fixed amount of rubber and you have got more rubber than you have area, the rubber has to go some place. If it doesn't extrude out to start with, it would have to be in there between the head of the fastener and the washer and the wall. Then there is a constant pressure on it and due to that it will eventually force this rubber to flow out through one of these openings. In other words, you have got a certain amount of rubber and it would have to go some place.

The Court: It's very important, isn't it, to have [186] the rubber washer of the right size as well as shape?

The Witness: That's right.

The Court: You say it is necessary to have a round shape, but it is very important to have a necessary quantity of rubber.

The Witness: That is correct, your Honor.

The Court: That is, if you have too much it extrudes, and if you don't have enough, it doesn't fill up the cavity.

The Witness: That's right.

The Court: To determine the exact amount of rubber necessary in the washer, is that invention?

(Testimony of Robert C. Comstock.)

The Witness: Yes, your Honor, because this type of relationship had never been used before.

The Court: I am not talking about the relationship at all. I am talking about whether or not to determine the volume of rubber is invention.

The Witness: To determine the volume of rubber as used in this structure, because the whole concept is novel. In other words, given the Gross patent and then to determine the volume from there on, no. In other words, once you are handed the invention and you are going to put it into practice, that is very simple to do. But without the Gross patent in front of you, it is not simple.

The Court: Isn't it true it is not invention if [187] you can solve a problem by trial and error, that is, you use so much of the material and try it and find out whether it is too much or too little, and if it is too much, you reduce it, and if it is too little, you increase it? That is not invention? That is trial and error, isn't it?

The Witness: Broadly stated, that is true, but you wouldn't have these relationships to start with without the inventive concept of the patent. In other words, you wouldn't be trying to fit these dimensions unless you had the Gross patent in front of you.

The Court: Let's assume that we have a metal washer that is designed to do a certain job.

The Witness: That metal washer to start with is going to have an inner diameter that is equal to that bolt.

(Testimony of Robert C. Comstock.)

The Court: Wait a minute. I don't care whether it is one inch or fifty inches.

The Witness: All right.

The Court: You have a metal washer designed to do a certain job.

The Witness: Yes.

The Court: Is it invention to determine how much metal should go into the washer, that is, how thick it should be?

The Witness: Not if it is going to be used as an ordinary washer, no, it doesn't make a great deal of difference. [188]

The Court: So suppose we have an O ring and the question comes up, how much material should go into the O ring to be used for a certain purpose. Is it invention to determine the question of the amount of rubber that is to be used?

The Witness: No, I don't think so.

The Court: All right.

Mr. Lee: I have one more question, your Honor. We have had lots of discussions. I want to clarify the record with this question.

Q. You have examined the Duo-Seal device, Exhibit 8, and the patent in suit, is that correct?

A. Yes.

Q. And you do find each and every element called for in Claim 1 of the patent in suit is found in the Duo-Seal device?

A. Yes, as I pointed out with this chart. I think it is Exhibit 85.

Mr. Lee: That's all.

(Testimony of Robert C. Comstock.)

The Court: I would like to ask the witness a question or two. It is not often that I have good expert witnesses on the stand.

The Witness: Thank you, your Honor.

The Court: I consider you an expert. As an expert [189] witness, you define in a few words for me, if you can, what is the difference between the term "doughnut-shaped" and a body of circular cross section?

The Witness: To define it in just a couple of words, I would say a doughnut-shaped ring is a broader term than body of circular cross section. I would say it means a body of substantially circular, or similar to circular in cross section.

The Court: Then you would say circular cross section means an accurate circle.

The Witness: Yes.

The Court: And a doughnut shape does not mean accurate.

The Witness: That's right.

The Court: It can vary from time to time.

The Witness: That's right, it can be varied.

The Court: Or from place to place.

The Witness: That's right. That is the way I would define it.

The Court: Have you got the patent in front of you?

The Witness: Yes, I have, your Honor.

The Court: Will you look at Claim 1?

The Witness: Yes.

The Court: I am going to ask you this question,

(Testimony of Robert C. Comstock.)

and I want to know if Claim 1 could not be read in the way I [190] am going to read it, changing one word only.

The Witness: All right.

The Court: "* * * a washer of rigid material having a central bore, surrounding the shank of the fastener and adapted to make rigid contact with the head of the fastener and a tank wall, and a rubber-like ring so shaped that said ring when deformed will form a sealing contact with the bore of the washer, the shank, the head of the fastener, and said contiguous portion of said wall."

All I have done is take out "doughnut-shaped" and inserted "so shaped".

The Witness: Yes, I would go along with that.

The Court: You would go along with that?

The Witness: Yes, I think that is a paraphrase of the claim.

The Court: And if that were so written, that instead of using "doughnut-shaped" you used "so shaped," you would then consider it a valid claim?

The Witness: There you are getting into a question of a technicality in patent wording. A patent lawyer has to try to avoid what are called functional phrases. In other words, wherever possible, you try to avoid defining a physical element solely in terms of its function, because there has been some criticism of functional claims. I believe now they are considered to be proper, but it is something patent lawyers [191] are always fighting over,

(Testimony of Robert C. Comstock.)

so you would try to avoid defining it solely in terms of its function.

The Court: I have never been a patent lawyer and I have never drawn a claim or had any experience in drawing a claim, but I know when a patent lawyer comes to drawing a claim, he is confronted with the question as to what words he is going to use to describe and to convey to other people what he means.

The Witness: That's right. It is a tough situation, too.

The Court: It is a terribly hard question to answer. This party who drew the claim described this as doughnut-shaped.

The Witness: Yes.

The Court: I suppose he did that with the idea that everybody knows what a doughnut-shaped object is. I thought I did before you explained it. I don't know now whether I do or not. But he used the word "doughnut-shaped."

The Witness: Yes.

The Court: Would it have been just as well for him to have said, instead of saying doughnut-shaped, so shaped that it would be deformed?

The Witness: Well, as I say, it would be just as well except for this technical objection that the examiner would probably raise to our defining a physical element solely [192] in terms of its function and they prefer to have some term in there that is not purely functional, so you put in a word like "doughnut-shaped," but you interpret that in

(Testimony of Robert C. Comstock.)

the light of the remainder of the claim and also in the light of the specifications and drawings, so that looking at it that way, it means that it would have to be rounded off or cut off at its corners in order to get this effect, but as a patent lawyer you would try to avoid that and the examiner would probably criticize you if you worded it in that manner. But that is actually the essence of what the claim means. Any ring that is so shaped that it will perform this in my opinion would be doughnut-shaped. I think it would have to be. If you could figure out some way to make it—I don't see how you could possibly do it without having a ring that is sort of rounded or sheared off at the corners. If there is some other conceivable way to do it, maybe that would avoid infringement, but I can't see how it could be done.

The Court: I asked you that question with a certain thing in mind, because a question came up in my mind when I first read the patent before trying the case of what is meant by doughnut-shaped, and the only way I could figure out was that it was some object shaped in the form of a doughnut.

The Witness: That's right.

The Court: And recognizing the fact that doughnuts [193] are not uniform, at least they were not uniform when they were handmade, but now they have machinemade doughnuts they are more uniform.

The Witness: They aren't as good, though.

The Court: They are probably not as good, but

(Testimony of Robert C. Comstock.)

everybody has a definition of the word "doughnut-shaped." Doughnut-shaped, in your opinion, is broader than circular cross section.

The Witness: Yes, I think so.

The Court: But you believe that the words "so shaped" could be substituted for "doughnut-shaped."

The Witness: Apart from the technicalities of patent law, yes, looking at it from an interpretation point of view, yes.

The Court: I wonder if any other counsel here have read the Parker case.

Mr. Lee: Parker?

The Court: Yes, the Parker case.

Mr. Lee: I am not sure which one that is, your Honor.

The Court: I can't give you the citation offhand. I can give it to you later. But the case is rather similar to the case at bar, although I haven't heard all the evidence in this case. That involved an airplane part, but it involved the connections of the tubing. It was necessary to transport [194] oil or gas from one place in the plane to another under high pressure. The problem arose as to what kind of connection you could have in the tubing, and Parker had a patent in which he described this tubing, and he used this term "so shaped" so that it will do so and so. That is why I asked you the question as to whether or not we could use the words "so shaped." [195]

* * * * *

(Testimony of Robert C. Comstock.)

Recross Examination

Q. (By Mr. Miller): On your redirect, you spoke about the relationship of the rubber to the metal or the relationship of the rubber to the void.

A. Yes.

Q. Is there anything in the patent that describes this relationship?

A. There are several things in there that describe it. In the claim, for example, and probably also in the specification, [196] it says that the diameter of the rubber ring is greater than that of the washer, and that it is normally protruding beyond the washer, and then referring to the drawings of the patent, it shows the rubber ring when deformed has completely filled the area, and it also refers to it as forming a sealing contact with these four areas we have spoken about.

It also says there is metal-to-metal contact between the head of the fastener and the washer and the wall and if you put these together you can't come out with anything else.

Q. Supposing you had a bolt, say a quarter inch in diameter, and you have a washer that is, say, one-sixteenth inch in thickness. Can you tell what the inside diameter of the washer should be and the diameter of the O ring should be?

A. Would you read the question, please?

(Question read.)

The Witness: Well, your O ring should be large enough in its inner diameter or inner circumference, however you want to call it, to fit around the

(Testimony of Robert C. Comstock.)

shank of the bolt so that would be about a quarter inch or maybe very slightly less.

Then the thickness of the O ring would have to be greater than one-sixteenth of an inch so that it would protrude above it.

Then your washer should have an inner diameter, I don't know whether that was one of the questions here, an [197] inner circumference just sufficient to allow room for your O ring to fit in it.

Q. (By Mr. Miller): Could you tell me what those sizes should be from the disclosure in the patent?

A. Yes, I think you could work it out pretty accurately. You would have to have a diameter on your O ring that would be greater than one-sixteenth of an inch, certainly.

Q. How much greater?

A. Well, this would require quite a bit of calculation to work the thing out. I mean I don't see that it is anything other than a mechanical problem in calculation. I don't know that I can give an immediate answer to the thing right here and now. I think it is just a matter of working the thing out.

Q. Will you explain how you would approach the problem in calculating it?

A. Well, yes. The inside diameter of your—or inside circumference, I guess we should call it, of the O ring would have to be such that it can fit around and snugly engage the bolt, so that makes it roughly around a quarter of an inch.

(Testimony of Robert C. Comstock.)

Then your thickness of your O ring has to be such that it will protrude beyond the washer so that it has to be greater than one-sixteenth of an inch in diameter.

Now, whether these proportions are going to work out, maybe we can work it out and say as little as one-sixteenth— [198] maybe you are getting too small on that, I don't know, but I think it would be relatively simple to follow through and to work those out so that you get a proportion where you can get the results that are described in the patent, whereby your O ring is thicker in diameter and still is capable of being deformed into sealing contact. Those are the elements you have to keep in mind when you are working that out, and also, of course, the stuff has to fit around the bolt and fit beneath the head of the bolt.

Q. Would you attempt to determine how much thicker an O ring should be than the washer by mathematics, or would you do it by trial and error?

A. I think it could probably be done either way. I am no expert mathematician, but I would imagine it could be done either way. I don't see why it couldn't, but I can't be positive of that. I should think anyone could determine that. It might possibly require the use of calculus. I doubt it. But I should imagine it could be done mathematically. If it couldn't be done mathematically, it could be done very easily experimentally.

Q. Then you would say that this patent gives you a cue as to further experimentation to deter-

(Testimony of Robert C. Comstock.)

mine exactly what the relative sizes of the O ring and washer should be?

A. No, I would not word it that way at all. I would say it tells you how to do it, and it is just a matter of [199] routine mechanical skill to go ahead and practice the invention.

Q. I have given you the circumstances of the quarter-inch bolt and the one-sixteenth-inch washer. You can't tell me, can you, the size the O ring should be?

A. The exact size, no. I am not a mathematician, as I said. I think Mr. Gross could probably tell you. I don't think it would require anything other than the taking of all these factors into consideration. Maybe if you would give me some time and a piece of paper, I could sit down and figure it out and maybe I couldn't, but I don't see what it proves, one way or the other.

Q. I would like to draw a sketch in front of you so we can label parts of it of a typical situation. Suppose we draw here — I am going to draw it fairly good and large—a bolt shank, and I am going to draw a rather heavy washer. Inside the washer I am going to draw an O ring. This is freehand. This is supposed to be a perfect circle.

Mr. Fulwider: Doughnut shape.

Q. (By Mr. Miller): Now, if we have perfect conditions, such as you describe, that the O ring when it is squashed fills the void inside of the metal washer, no more or no less—that is the ideal condition, isn't it? A. Yes.

(Testimony of Robert C. Comstock.)

Q. Then we have four voids or air spaces, which I shall [200] number 1, 2, 3 and 4. Isn't that correct? A. Yes.

Q. Now, when the washer is squashed, those four voids are to be filled with rubber. A. Yes.

Q. Neither no more nor less. A. Yes.

Q. And we do that by mashing down what is above and below these horizontal lines I have drawn on the O ring. A. That's right.

Q. And this volume 1, I will call volume 1, should approximately equal the volume of spaces 1 and 2. A. Yes.

Q. And volume No. 2 should approximately equal the volume of spaces 3 and 4. A. Yes.

Q. Now, under those circumstances, there would be a certain diameter D of the O ring.

A. Yes, sir.

Q. Now, let's draw a section down here of the accused device. Assume that the size of the metal washer is the same. Is that about the shape of it?

A. I can't agree with you on that. I think you probably know better than I do what the shape is, but don't ask me to admit that is correct, because my understanding is [201] it is not, but I don't know.

Q. All right. If it were made this way, as I have put in the lower sketch, I will label the upper one Figure 1 and the lower sketch Figure 2, in that situation you would only have two spaces, No. 2 and No. 3. A. That's right.

Q. To fill with rubber, and they would get their

(Testimony of Robert C. Comstock.)

rubber from volume 1 above the horizontal line, and volume 2 below the horizontal line, wouldn't they? A. That's right.

Q. Now, would the dimension of the diameter D be different in the case of the accused construction from the diameter D in the Lock-O-Seal or the patented construction?

A. Yes. Given those exact structures there, there will be a slight difference in the diameter. Your diameter here would be a little bit smaller than the diameter at Figure 2.

Q. That is because of the fact that in Figure 2 we don't have any volumes or voids or air spaces at 1 and 4. A. That's right.

Q. To fill with rubber.

A. That's right. You are assuming that those are already filled with rubber in your construction there, as I understand it.

Q. Yes. I am asking you to assume, if you don't know [202] it to be a fact, I am asking you to assume that the rubber is molded in the course of its manufacture right against the bore of the washer.

A. Yes, so that there are no voids 1 and 4.

Q. That's right. A. Yes.

Q. Even if there were some minute depressions here at the locations of 1 and 4, the dimensions of the Lock-O-Seal, or what is shown in the patent, would not hold true of the dimensions here.

A. It would be very slightly smaller to the ex-

(Testimony of Robert C. Comstock.)

tent of the difference in the voids there and the amount of the rubber you had.

Mr. Miller: I would like to offer the sketch.

The Court: It may be received and marked Defendants' Exhibit next in order.

The Clerk: Exhibit Z.

(The sketch referred to was marked Defendants' Exhibit Z and was received in evidence.)

Q. (By Mr. Miller): Now, we have been discussing Lock-O-Seals or the patented structure, and the accused construction, under ideal conditions where the thickness of the washer is exactly held and the size of the bolt is an exact amount, and things of that character. There are tolerances or variations in those in actual manufacture—or do you know? [203]

A. I certainly assume that there would be.

Q. The thickness will vary. A. Yes.

Q. In ordinary washer-making.

A. Yes, I should imagine so.

Q. How about the inside diameter? That will vary in washers.

A. I should imagine so, that all things vary within whatever tolerance the manufacturer sets up. It is usual to set up a range of tolerance and have an inspection system where you reject whatever doesn't fit your tolerances.

Q. When you have a varying thickness with the Lock-O-Seal, does that affect the sealing ability of the O ring?

A. If it were far enough off, if you get enough

(Testimony of Robert C. Comstock.)

off, it could possibly do so. As I said, I think that in actual practice, they don't try to achieve this 100 per cent, that they probably run it down below that so as to try to make some allowance for tolerance.

Q. If the washer is too thick, then you have too little rubber, if your O rings stays the same, is that right? It doesn't fit the void entirely.

A. That's right. The question of too little is relative, of course, but it could reach a point where it would be so little that you would have no seal, but that would be a pretty extreme case. It is doubtful. In fact, I don't think [204] you would reach that with any normal tolerances you would set up. [205]

* * * * *

WILLARD HAROLD WYNNE

called as a witness by and on behalf of the plaintiffs, having been first duly sworn, was examined and testified as follows:

* * * * *

Direct Examination * * * * *

Q. (By Mr. Lee): What is your occupation, Mr. Wynne?

* * * * *

The Witness: I am supervisor in the laboratory of the Rohr Aircraft Corporation.

Q. (By Mr. Lee): How long have you been employed at Rohr Aircraft Corporation? [206]

A. Since the 5th of February, 1946.

Q. What are your duties?

(Testimony of Willard Harold Wynne.)

A. I supervise the activities of the chemistry laboratory, physical testing laboratory, electronics. * * * * * [207]

Q. Mr. Wynne, are you familiar with the books and records kept in the Rohr laboratory?

A. Yes, sir, I am.

Q. And are these books kept in the regular course of business? A. They are.

Q. In connection with sketches and drawings, do you have a regular system of keeping such things? A. Yes, sir, we do.

Q. Have you examined these recently?

A. Yes, sir.

Q. I hand you a laboratory sketch, Plaintiffs' Exhibit 35, and ask you if you recognize that.

A. Yes, sir, I recognize this.

Q. Could you tell me what that is?

A. This is a laboratory sketch of a retainer that is used in connection with a Lock-O-Seal.

Q. Was that print that you have in your hand prepared under your direction? A. It was.

Q. From the originals kept in the Rohr laboratory files? A. Yes, sir.

Mr. Miller: Is it a print?

Mr. Lee: It is a photostat, yes. Did you have a [208] question?

Mr. Miller: No. Go ahead.

Q. (By Mr. Lee): I hand you Plaintiffs' Exhibit 36 for identification and ask you if you recognize that.

A. Yes, sir, I recognize this.

(Testimony of Willard Harold Wynne.)

Q. What is that?

A. This is a laboratory sketch of a Lock-O-Seal assembled.

Q. Was the print that you have in your hand prepared under your direction? A. Yes, sir.

Q. I hand you a sketch, Plaintiffs' Exhibit 37 for identification, and ask you if you recognize that.

A. Yes, sir.

Q. What is it?

A. This is a sketch of an O ring.

Q. Was that prepared under your direction from the file copies at Rohr Aircraft?

A. Yes, sir.

Q. I hand you Plaintiffs' Exhibit 38 for identification and ask you if you recognize that.

A. Yes, sir.

Q. What is that?

A. This is a sketch of an assembly jig that was used in order to assemble the components of the Lock-O-Seal. [209]

Q. Was that Plaintiffs' Exhibit 38 prepared under your direction?

A. Yes, sir.

Q. From the file copy at Rohr Aircraft?

A. From the file copy that Rohr Aircraft has.

Q. I hand you sketch, Plaintiffs' Exhibit 39, and ask you if you recognize that.

A. Yes, sir.

Q. What is that?

A. This is a laboratory sketch of the components of the Lock-O-Seal.

(Testimony of Willard Harold Wynne.)

Q. Was Exhibit 39 prepared under your direction? A. Yes, sir.

Q. From the file copy at Rohr Aircraft?

A. From the file copies.

Q. Do you have a photographic department at Rohr Aircraft? A. Yes, sir, we do.

Q. Is that a regular established department there? A. Yes, sir.

Q. In the regular course of business, do you take photographs at Rohr Aircraft? A. We do.

Q. Does the photographic department keep records? A. Yes, sir. [210]

Q. Have you examined those records recently?

A. I have.

Q. How do they keep photographs filed?

A. Physically, the negatives are filed in envelopes, and these envelopes are marked with the serial number of the photograph and the date that the negative was developed. In addition to that, each one is captioned by the nomenclature selected by the person who authorized the photograph being taken. These are filed in arithmetical sequence.

Q. And the date and the subject or title of the picture appear on the envelope in which the photograph is kept?

A. Yes, sir, and in addition there is an index kept that bears this information, also.

Mr. Miller: Do you plan to offer these in evidence?

Mr. Lee: Yes.

Mr. Miller: I object to them.

(Testimony of Willard Harold Wynne.)

Mr. Lee: This is for identification.

Q. I hand you here photograph which has been marked Plaintiffs' Exhibit 40 for identification, and ask you if you recognize that. A. Yes, sir.

Q. Would you turn to the back of it, please? Does it bear a notation there? A. It does.

Q. What does it say?

A. It says June 29, 1943, First PB2Y3 for conversion out in the Bay.

Q. Would that be the information you have spoken of as being on the envelope in which the negative is kept? A. Yes, sir.

Q. It doesn't have a number, in addition?

A. It has the number 2620.

Q. And what would that number be?

A. This would be the serial number of this photograph, the Rohr serial number.

Mr. Lee: I have a further group of photographs, your Honor, and if Mr. Miller has no objection, I would like to have the witness identify them as a group.

Mr. Miller: I don't see any of this has been identified properly. I have been waiting for the offer so I could object. These are merely copies, in the first place. [212]

* * * * *

The Court: You look at these documents, and if you want to see the originals, you make a written demand for the production of the originals, so there won't be any question as to which ones you want to see.

(Testimony of Willard Harold Wynne.)

Mr. Miller: All right.

The Court: With that provision, the objection is overruled.

Mr. Lee: We would like to offer in evidence 35 through 39.

The Court: They may be received in evidence.

The Clerk: Exhibits 35 through 39.

(The exhibits referred to were received in evidence and marked as Plaintiffs' Exhibits 35, 36, 37, 38, and 39.)

[See Book of Exhibits.]

Mr. Lee: Counsel, do you have any objection if I show these photographs in a group rather than one at a time?

The Court: What are you trying to establish, counsel, by this? Maybe we could stipulate. Maybe counsel would be glad to stipulate to certain things.

Mr. Lee: Your Honor, Mr. Wynne is the man familiar with the records of Rohr Aircraft Company in this line, and [220] while he is on the stand I would like to have the opportunity for him to look at these, he has made a check of the records kept, and to identify these.

The Court: What is the purpose of putting these records in the evidence?

Mr. Lee: That will come out in the course of development and test work done on the project, on Lock-O-Seals, your Honor, as the story is told by Mr. Wynne and other witnesses to come.

The Court: I still don't know what the purpose

(Testimony of Willard Harold Wynne.)

is, but I guess you do, and if you do, that is sufficient at this time.

Mr. Miller: Do I understand, counsel, that you want this witness to testify as to test work done after 1946 when he started in the employ?

Mr. Lee: Yes.

Mr. Miller: You mean starting in 1946?

Mr. Lee: Yes.

Mr. Miller: I can stipulate to that, if you want me to.

The Court: According to the opening statement of counsel in this case, the plaintiff received an order to revamp or to change some airplanes relative to gasoline containers, an order from the Navy, and I suppose, according to the opening statement, or at least maybe it was from the testimony [221] of a witness, I don't remember now, that this presented a new problem, trying to make it leakproof, and they had to go around, and I think the witness testified they went around to find out what was done, what other companies were doing.

Aren't you willing to stipulate, Mr. Miller, that they did a lot of experimental work here, they made certain laboratory tests, that they did this, that, and so forth, and so on, before they came around to making the application for a patent? Aren't you willing to stipulate that?

Mr. Miller: No. I don't think that is quite the story. They filed their application right quick. In fact, Mr. Lee just told me they were doing experimental work in 1946, and they filed their application in 1944.

(Testimony of Willard Harold Wynne.)

The Court: Just a minute. When did they get this job from the Navy?

Mr. Lee: 1943, your Honor, approximately.

The Court: 1943?

Mr. Miller: And they are still testing in 1946.

The Court: And I expect they will be testing in 1956 or 1976, if they are still in business.

Mr. Miller: But they shouldn't be testing by this time.

The Court: There will be something else to test.

Mr. Miller: This word test is rather loosely used. [222] Where the test comes in is this. In 1949, I think it is, a new military specification came out as to the nature of the rubber that should be used. It did not tell you the formula of rubber. It said the rubber is to do thus-and-so and so-and-so. There was an effort to compound a rubber that would meet that specification and that rubber was tested. We don't doubt it.

The Court: We have no argument in this case relative to the composition of the rubber. I don't care anything about any evidence relative to the composition of the rubber or relative to any experimentation that was done along that line. The only thing I am interested in here is the work that was done relative to putting an O ring, an O rubber ring inside of a steel or an aluminum or a metal washer of some kind.

Mr. Miller: All right, if you want to hear testimony on the test work of that, if this has some bearing on that, very well.

(Testimony of Willard Harold Wynne.)

Mr. Lee: Your Honor, this work has a direct bearing on our second cause of action for unfair competition.

Mr. Miller: Now we get off into something else. He doesn't answer us. Is it on the test work, the physical structure, or is it on the composition of rubber, trade secrets, things of that nature?

The Court: You can't have a claim for unfair competition [223] unless the other side knew what was going on.

Mr. Lee: They knew, your Honor.

The Court: All I know is what counsel states up to this time.

Mr. Fulwider: That is the purpose of this testimony. Mr. Miller has been complaining all this time that we have not produced the things that we say are the basis of our unfair competition cause. This series of exhibits, photographs, prints, are to illustrate the testimony of exactly what went on over this period of time that forms the basis of our unfair competition count. A good deal of it goes to the patent phase, too. They are intertwined. You can't separate them. While it is bulky and we would like to expedite the matter, we are entitled to put on our case in an orderly fashion. We will try to do it as fast as we can.

The Court: Let me see the photographs you want introduced in evidence.

Mr. Fulwider: My thought was pictures are the best evidence. I have a lot of testimony. When we get a pictorial record before the court, we have

(Testimony of Willard Harold Wynne.)

a record that is readily understandable and easy for everybody to know what we are talking about.

Mr. Miller: Is it your assertion these photographs were given to Rubber Teck?

Mr. Fulwider: Mr. Miller, all of the photographs [224] and prints we put in evidence, and some are for several questions——

Mr. Miller: Just answer my question. Do you accuse us of having received the photographs or the prints?

Mr. Fulwider: Some of them you did and some of them you didn't.

Mr. Miller: Can you tell us which ones?

Mr. Fulwider: That has nothing to do with the point. You will find out in due course as they are introduced.

The Court: These documents have been marked for identification, and when some witness comes around that can tell us what the documents represent, and so on, there will be plenty of time to put them in evidence. I think this is the wrong time to offer them in toto in evidence. [225]

* * * * *

BERNARD GROSS

called as a witness on behalf of the plaintiffs, having been first duly sworn, was examined and testified as follows:

* * * * *

Direct Examination

Q. (By Mr. Fulwider): Mr. Gross, what is your present occupation?

(Testimony of Bernard Gross.)

A. President of Chem-Tronics.

Q. Where is that company located?

A. Santee, California.

Q. Where is Santee?

A. It is in the El Cajon, Santee, San Diego.

Q. Thank you. How long have you been engaged in that occupation?

A. Some two years.

Q. Were you employed by Rohr Aircraft prior to that time? A. Yes, sir.

Q. For approximately how long?

A. 15 years.

Q. What was your position with Rohr?

A. Director and manager of the laboratory.

Q. Prior to going with Rohr, by whom were you employed? A. Ryan Aeronautic Company.

Q. For approximately how long a time?

A. Two years.

Q. And prior to that?

A. Polytechnic Institute of Brooklyn.

Mr. Miller: The what?

The Witness: The Polytechnic Institute of Brooklyn. That is the oldest engineering college in the country.

Q. (By Mr. Fulwider): Was that in connection with teaching?

A. Yes, sir, and I also at the same time held the position of supervisor of the American Importers Association, who had laboratories at the college.

Q. Were you also, just prior to that, connected with the American Aeronautics Corporation?

(Testimony of Bernard Gross.)

A. Yes, sir.

Q. Has all of this work had to do with aviation, the aircraft industry? A. That's right.

Q. Are you a graduate engineer, Mr. Gross?

A. Yes, sir.

Q. What degree do you have?

A. B.S. in chemical engineering. [249]

Q. I believe you mentioned you had taught. What has been your teaching experience, briefly?

A. In 1932 to 1936, I was on the faculty of the Polytechnic Institute, Brooklyn, as instructor of research.

Q. Have you taught in California?

A. Yes. I taught for San Diego State College, was in charge of their aeronautics engineering extension, and for the University of California in the war emergency engineering training program as instructor of aeronautic materials and processes.

Q. That was during the war, you say?

A. Yes, sir.

Q. Are you a member of any professional societies? A. Yes, sir.

Q. If you are, would you just state the principal ones, briefly?

A. The National Society of Professional Engineers, the California Society of Professional Engineers, the American Chemical Society, the American Society of Metals, the Institute of Aeronautic Science, and American Society of Metals.

Q. Society of Automotive Engineers?

A. Yes, sir.

(Testimony of Bernard Gross.)

Q. Are you a registered engineer in California?

A. Yes, sir.

Q. Have you ever authored any technical or scientific [250] papers that have been published?

A. Yes, sir.

Q. Over what period of years has that happened?

A. Well, over the last 20 years, I have read and have published some between 15 and 20 papers.

Q. Have you ever been on an aircraft research and testing committee of the Aircraft Industries Association?

A. I served for eight years and was chairman of the committee.

Q. Were you chairman of any other similar committees?

A. I was chairman of the joint military and industry committee for the East and West Coast combined.

Q. Will you speak up just a little bit? I am not sure the people can hear you.

A. I was chairman of the joint military and industry committee on research and testing for aircraft.

Q. What were your duties broadly during the term you were at Rohr Aircraft Corporation?

A. Well, I directed the activities of the laboratory at Rohr Aircraft and participated in some of the research.

Q. You say the laboratory. Was the bulk of the research and development work done at those

(Testimony of Bernard Gross.)

laboratories that you speak of? A. Yes, sir.

Q. They were research and development laboratories, [251] as I understand it.

A. Research and development, in addition to the control work for production.

Q. About how many employees did you have in the laboratories at Rohr during the time that you were there under your supervision?

A. Well, I would say it averaged close to 50.

Q. Did you usually have a number of research or development projects going?

A. Yes, sir.

Q. About how many would you say on the average?

A. Well, they ranged from 10 to 20 projects at any one time.

Q. And those were all under your supervision?

A. Yes, sir.

Q. Did any of those projects have to do with sealing or sealing problems in aircraft?

A. Yes, sir.

Q. Did you have such a thing as a sealing group or sealing subgroup?

A. Yes. That was one of our groups that we had over a period of years.

Q. Was that over a substantial period of years?

A. Yes, sir.

Q. You are the Bernard Gross mentioned on the patent [252] in suit, are you not?

A. Yes, sir.

Q. The other inventor is, I believe, Mr. Leo

(Testimony of Bernard Gross.)

Cornwall. Who is Mr. Cornwall? Was he associated with you?

A. Mr. Cornwall was a former employee of Rohr Aircraft.

Q. Did he work under your supervision in the lab? A. He did.

Q. At the time that the invention was developed? A. That's right.

Q. Now, thinking back to the year 1943, will you tell me whether or not Rohr obtained a contract from the Navy for some reconversion work on PB2Y's? A. Yes, I recall that.

Q. I call your attention to Plaintiffs' Exhibit 40 for identification. Can you tell me what that picture portrays?

A. Yes. I believe—yes, this was the first Navy, a Navy seaplane designated as the Coronado four-engined plane, that was delivered to Rohr Aircraft in the summer of 1943 for various types of work to be accomplished. This was the first of a long series of similar airplanes that the Navy needed very urgently to transport cargo from Alameda to Hawaii.

Q. And did the contract that you mentioned have to do with the conversion or reconversion or modification of these [253] planes shown in Exhibit 40? A. Yes.

Q. Tell us a little bit about that program. Was it essentially a sealing program?

A. One of the major items in this reconversion program was to make it possible to store fuel in

(Testimony of Bernard Gross.)

the wings formerly that were designed to store fuel in bladder cells.

Q. What is a bladder cell?

A. A bladder cell is usually made up of a flexible material in the form of a large bag, and it is supported mechanically to the frame, the internal surface of the frame of a wing, and its orifice is matched with the orifice of the wing and the fuel is stored in such a cell.

The Court: May I ask a question?

Mr. Fulwider: Yes, your Honor.

The Court: Up to this time, had the aviation industry ever carried gasoline in the wings without a bladder cell?

The Witness: There had been attempts at it and, as I recall it, I believe this was one of the first ones, representing an attempt that failed. There were attempts to do it. There were no successful so-called integral tanks up to that time.

The Court: Up to the time, then, they delivered these planes, the gasoline was carried in the bags inside the [254] wings, is that right?

The Witness: In bags or welded metal tanks which were inserted.

The Court: Then there had been no successful operation at carrying the gasoline in the wings without tanks or bags.

The Witness: To my knowledge, that's right.

Q. (By Mr. Miller): Now, this project that you had from the Navy, as I understand it, was to ex-

(Testimony of Bernard Gross.)

plore this entire problem of sealing the wings so that they could act as tanks, is that correct?

A. Yes, sir.

Q. As a part of that problem, you had the problem of sealing the necessary fasteners used in that conversion. A. Yes, sir.

Q. Can you tell me whether or not prior to that time there had been any real problem in the aircraft industry in the matter of sealing fasteners? In other words, prior to this beginning of the work on making integral tanks.

A. Yes. Sealing was not too much of a problem until—except for bad welding, of course, and that sort of thing, in gasoline tanks, but when we started to pressurize cabins, which occurred some five years before this ship arrived on the scene, there were many problems and they were becoming more complex all the time. [255]

The need for more fuel led to using these bladder cells because of the fact that the bladder cells, with them you could get a little more capacity than you could get by a metal insert tank. So the problem had been there for some years. The bladder cells were unsatisfactory because in flight the movement of the airplane would cause the bladder cells to become ruptured, and sometimes just a small leak from a bladder cell would cause vapors between the bladder cell and the wing itself, and there were considerable lives lost that way, together with the fact that there was a considerable amount of weight involved.

(Testimony of Bernard Gross.)

As I recall it, on this particular airplane we were able to remove 1,200 pounds of bladder cell to enable the Navy to take a useful load, because without a useful load, the Navy would only be able to fly an airplane with sufficient fuel to take the airplane from the West Coast to Hawaii, so it became a very urgent matter with the Navy, and we worked around the clock on that.

Q. Up to this time what had been the practice of engineers when the question arose as to whether to design a structure with a fastener extending from a wet side to a dry side, shall we say?

A. I am sorry. I didn't quite get that.

Mr. Fulwider: Will you read the question, please?

(Question read.) [256]

The Witness: Let me start with saying that engineers had a big problem for years when sealing was involved. Actually, they were so involved in producing the structure which would carry the load of the airplane that they left the sealing problem for last, and as a result, not too much thought was given and the airplanes came out very unsatisfactory, all of them.

Q. (By Mr. Fulwider): Were there any satisfactory fasteners, seals?

A. I mention that because as a result of that, in sealing bolts, there was a very crude method used. For example, the bolts, and other fasteners too, like rivets, were usually immersed in a paste,

(Testimony of Bernard Gross.)

and then they were inserted into the hole and tightened that way.

This was unsatisfactory because of the fact that it was just a temporary thing and it only stood initial test in the factory, and with a little vibration the material was lost, the sealing had gone, and the structure was unsound because of the looseness of the bolts.

Q. Now, referring to the same time when that PB2Y, Exhibit 40, was delivered to you, I show you here Plaintiffs' Exhibit 42 for identification. Can you identify this photograph and what is shown in it for me? You might hold it so the judge can see it.

A. Yes. I recall this photograph. This was a center [257] section of a wing of a Coronado that was sent to us by the Navy to be used for development work in developing seals and to expedite the program so that we didn't have to work on the actual airplanes themselves to start with.

The Court: They sent you a wing to experiment on, is that it?

The Witness: Actually, the urgency was so great that the commanding officer of the Naval Air Station at San Diego ordered that this center section be cut off an airplane, which it was, and in 24 hours this was delivered to us.

Q. (By Mr. Fulwider): Is that a standard center section, typical center section of a PB2Y?

A. That is, a PB2Y3.

Q. I show you Exhibit 43 for identification. Can

(Testimony of Bernard Gross.)

you tell me what part of an aircraft wing structure that represents, tying in to the PB2Y?

A. This shows typical structure with bayonet fittings of one of the four compartments in this wing. As I recall it, the four compartments we were finally able to fill with 4400 gallons of gas, and as the wing came to us, we had to solve some design problems, which I think were mentioned earlier in this court.

Q. I show you also photograph, Exhibit 41, and ask you to explain what that illustrates, and then, using the three photos that you have just discussed, discussed briefly the matter [258] of fastener sealing problems in connection with those structures.

A. This photograph shows a typical access door, which were quite large, they were something like four feet by six feet, and these access doors were necessary on each compartment to insert the bladder cells. They were secured to the wing structure with bolts, with many bolts. I might add that some of these access doors showed definite signs of leaks from fuel which had leaked out of the bladder cells and into the wing structure and out through the bolts, and, if I recall, this photograph here shows just that. That is a plan that was repeated with the typical gasoline stains. The gasoline evaporates and the dye remains and indicates a leak. [259] * * * * *

Mr. Fulwider: At this time I would like to offer in evidence Exhibit 9 and Exhibit 85. 9, I believe, is one of the charts.

(Testimony of Bernard Gross.)

Mr. Lee: 9 is the defendants' advertising.

Mr. Fulwider: Oh, yes, the defendants' advertising that was discussed the other day, which was referred to as containing the 1104-D. Exhibit 85 is this big chart here that was used by the witness, to illustrate the testimony of the witness. [262]

* * * * *

The Court: 85 may be admitted in evidence, and we will hold 9 until after the recess.

The Clerk: Exhibit 85.

(The exhibit referred to was received in evidence and marked as Plaintiffs' Exhibit No. 85.)

* * * * *

Q. (By Mr. Fulwider): Now, Mr. Gross, at the close of the session yesterday, I believe you were explaining to us the sealing problems involved in performing that contract for reconversion given you by the Navy. We had these photographs, 41, 42 and 43, illustrating wing sections. I will just put them here in case you want to refer to them.

Now, at the time that this sealing project was presented to Rohr in 1943, was there available in the industry a satisfactory fastener seal that you could use in connection with that problem? [263]

A. No, sir.

Mr. Miller: I object to the question, no proper foundation laid as to what his contact is with the industry.

(Testimony of Bernard Gross.)

The Court: Overruled. It is cumulative to what has already been introduced.

The Witness: No, sir.

Q. (By Mr. Fulwider): Did you make any kind of a survey of the industry to ascertain this, to see if there was a fastener seal you could use in connection with this project?

A. Yes. That was done. There was one trip in which I, with the engineering liaison officer of the Navy stationed at Rohr, visited all of the prime, major prime contractors on the West Coast. We talked to their research people. We visited with their production facilities to see anything that had to do with the sealing of fasteners.

Q. And you found nothing that you could use in sealing the fasteners on these PB2Y's?

A. No.

Q. I believe you also mentioned yesterday that sealing the large access doors was one facet of that problem. Were there other similar fastener sealing problems in connection with the joints and corners?

A. Yes. There was a serious problem at the corners of all the compartments used for the storage of fuel.

Q. Are those problems illustrated in any of these photos [264] that you have in front of you there?

A. I don't see any of the corners here at all. I know where they are located in this section.

(Testimony of Bernard Gross.)

Q. I will just ask you if there are numerous corners and joints.

A. Yes. There were others, like problems that had to do with sealing of the beaching gear, which really was flotation gear for beaching and launching these airplanes.

Mr. Fulwider: I would like to offer the Exhibits 41, 42 and 43 at this time as illustrating the testimony of the witness, most of it given yesterday.

The Court: They may be received in evidence.

Mr. Miller: I am going to object to it as being immaterial, not binding on the defendants here.

The Court: Overruled.

Mr. Fulwider: 40 should be in the group, the first photo of the plane.

The Court: In evidence.

The Clerk: Exhibits 40, 41, 42 and 43.

(The exhibits referred to were received in evidence and marked as Plaintiffs' Exhibits 40, 41, 42 and 43.)

[See Book of Exhibits.]

Q. (By Mr. Fulwider): Now, Mr. Gross, can you tell us approximately when the Lock-O-Seal invention was made?

A. It was either in the latter part of 1943 or the very early part of 1944. [265]

Q. Now, calling your attention to the photographs 42 and 43—I'm sorry. In the course of the developing of the invention, was it necessary for you to perform any test work in the laboratory?

(Testimony of Bernard Gross.)

A. Yes, many of them.

Q. Calling your attention to Plaintiffs' Exhibit 35 for identification, is this illustrative of some of that test work or, rather, the results of some of the test work?

A. Yes. This data sheet——

Mr. Williams: Your Honor please, may I inquire what materiality the test work done prior to the application of the invention has to this lawsuit?

The Court: The testimony is the invention was made in the latter part of 1943 or 1944. I don't suppose that you get an idea full blown. You have to develop the idea and you have to work on it.

Mr. Williams: I appreciate that, but as to the issues of this lawsuit, your Honor please, we have, No. 1, whether or not it has been infringed on one side.

The Court: If you are willing to admit that prior to the filing of the application there was considerable work done relative to experimentation, trial and error method, computations, I will rule all this out.

Mr. Williams: I just fail to see the materiality of what work was done prior to the invention.

The Court: Objection overruled. If you don't want to stipulate, the objection is overruled.

Q. (By Mr. Fulwider): Have you had a chance to examine that? What does that sheet show, Mr. Gross?

A. This is a typical data sheet of parts that

(Testimony of Bernard Gross.)

were to be made for testing the seals. This particular one had to do with the washer type of retainer used in the seal.

Q. I believe on here the notation appears, test washers for screw seal. Was the Lock-O-Seal or the seal of the patent in suit referred to in the early days as the screw seal or the Rohr head seal?

A. Yes, it was.

Q. In connection with that sheet and the test work on retainer washers, were there standard washers available for use in connection with the fastener seal?

A. No. Standard washers were not usable.

Q. Why were they unusable?

A. Well, a standard washer has for its diameter approximately the same diameter as the shank of a fastener and, therefore, there isn't any room there to put any sealing ring into it. Furthermore, the materials of the standard washers are not suitable for this type of device. The pressures exerted on the rubber are such that common steel would be expanded and you would lose the necessary volume or void necessary for the sealing, the rubber seal. [267]

Q. You mean in some instances you might have enough pressure on the rubber ring inside the washer to actually force the washer outwardly?

A. Yes.

Q. Cause it to flow? A. Yes.

Q. I assume that the Lock-O-Seals or, rather, the early screw seals, were used in various types

(Testimony of Bernard Gross.)

of bolts and applications? A. Yes, they were.

Q. Does Exhibit 44, this photograph, illustrate one of those uses?

A. Yes. This shows the use of the sealing device in connection with a hexagonal head.

Q. Does that show the fasteners installed?

A. Yes, that shows the bolts and the devices installed inside of the fuel storage compartment.

Q. I believe on that Exhibit 44 there is a serial number. Would you examine it to see if that is the photograph that does carry a ship serial number?

A. Yes. I'm sorry. This is a Navy serial number which indicates that it was a production airplane.

Q. That is from the notation on the back, is that it?

A. It is noted on the back here.

Q. What is that ship number? [268]

A. 7184.

Q. What does that indicate to you as to the stage of advancement or development of the Lock-O-Seal at that time?

A. Well, that was a production airplane, and it shows it applied on a production airplane.

Q. Would there have been a program of development and testing completed before you actually installed these fasteners on production ships?

A. Yes.

Q. What period of time would you estimate that might have extended over?

(Testimony of Bernard Gross.)

Mr. Williams: If your Honor please, I will object to this. He said would there have been, what would you guess, what would you think? I would like a question directed as to what was done.

The Court: Overruled. You may answer.

The Witness: There was a six months' period, I would say, at least, before they were applied, actually installed on the airplanes from the time of the first development.

Q. (By Mr. Fulwider): What is the date on the back of that photograph, Exhibit 44?

A. The date noted here is August 18, 1944.

Q. I show you Exhibit 59, being another photograph. Can you tell us what that illustrates in connection with [269] applications of the Lock-O-Seal, or Rohr head seal?

A. This photograph shows a typical fuel dump valve. It was installed by using bolts and Lock-O-Seals to seal the bolts. In this particular case, the bolts were slotted so that the heads could be put inside of the fuel compartment and a screwdriver used on the shank of the bolt while the nut was tightened.

Q. I call your attention to Exhibit 46, a photograph. Will you explain to us what that shows?

A. This photograph shows a typical model of a Lock-O-Seal device used with a washer before compression of the bolt, before tightening of the bolt, and after tightening of the bolt. This is the sort of thing that was used in training of Naval personnel. There were courses given at Rohr Air-

(Testimony of Bernard Gross.)

craft each week to a new group over a period of time and, as I recall it, this was one of them.

Q. I believe that shows a cut-away section, doesn't it, one view?

A. One of the typical cut-away sections we used.

Mr. Fulwider: I would like to offer that first series of photographs, first the sketch 35, and then the photographs, 44, 46, and 59, as illustrating the testimony of the witness.

The Court: They may be received in evidence.

The Clerk: 35 was admitted on the 12th. Plaintiffs' [270] Exhibits 44, 46 and 59.

(The exhibits referred to were received in evidence and marked as Plaintiffs' Exhibits 44, 46 and 59.)

[See Book of Exhibits.]

Q. (By Mr. Fulwider): In connection with the test work that we mentioned, I would like to show you just a few photographs here illustrating equipment used, or ask you if this does illustrate equipment used in this work. Now, I hand you 49, 56 and 57.

Referring to Exhibit 49, would you explain to us what that equipment is and what it is used for in connection with the Lock-O-Seal program.

A. This photograph shows a test cell which was pressurized to determine the relative merits of Lock-O-Seals with any other type that might be used. I believe there is enough showing in the photograph where a common elastic stop nut has been used along with bolts having the Lock-O-

(Testimony of Bernard Gross.)

Seals. This cell was pressurized and the air shut off and over a period of time the readings, pressure readings were taken to determine if there was any leakage. Sometimes we used more sensitive equipment like freon gas in connection with this cell to determine whether we had a hermetic seal or not.

Mr. Williams: If the court please, may I inquire as to the date? Is this prior to the patent being applied for?

The Court: The date on the photograph is November [271] 23, 1944.

Mr. Fulwider: This evidence all goes to the matter of the merit of the invention, but equally importantly, and perhaps more importantly, to the unfair competition count.

Mr. Miller: Well, now, are you attempting to prove that these exhibits were disclosed to the defendants?

Mr. Fulwider: No.

The Court: You know, you can't put in your case all at one time. You have got to put it in piecemeal. I don't know how these are going to be connected up. They may be connected up later on.

Mr. Miller: We don't either, your Honor. We don't know if they have any materiality.

The Court: If there is an objection, it is overruled. Go ahead.

Mr. Miller: I call to your attention that that is after the filing date.

(Testimony of Bernard Gross.)

The Court: I know what the date is. Go ahead.

Q. (By Mr. Fulwider): Will you explain briefly what Exhibit 57 shows?

A. 57 shows for one thing the type of equipment used in a vibration test. It also shows specimens being tested in vibration. These specimens consisted of bolts which had been tightened with the Lock-O-Seal, and then the vibration rates were set, and over a given period of time the tightness [272] or torque of the bolt was checked to see whether there was any lessening of tightness. In other words, the effect of the Lock-O-Seal on the initial tightness or torque, as we call it, of the bolt.

Q. Is the equipment shown in the exhibits 49 and 57 that you have just discussed typical of laboratory testing equipment that was used by you or your employees in the Rohr laboratory in connection with Lock-O-Seals, both before and after filing of the patent application, testing Lock-O-Seals? A. Yes.

Q. I call your attention to Exhibit 56. Will you explain briefly what that illustrates?

A. This photograph shows a use of a torque wrench to apply the initial tightness, or to obtain the initial tightness of a bolt after vibration. After a period of vibration, this wrench is used again to determine whether or not there is a loss of tightness as a result of the various types of vibration used here.

Q. Is it essential in fasteners of this type, particularly in aircraft structures, to have them tight-

(Testimony of Bernard Gross.)

ened down to a certain torque, and if so, why is that necessary?

A. Yes. In aircraft work, practically all of the bolts on the airplane are installed with a torque wrench to obtain the structural integrity that the designer needs to accomplish aircraft structural strength. [273]

Mr. Fulwider: May this be marked for identification with our next number?

The Court: It may be marked.

Mr. Fulwider: It is a torque wrench.

The Clerk: Exhibit 88 for identification.

(The exhibit referred to was marked as Plaintiffs' Exhibit No. 88 for identification.)

Mr. Fulwider: And may we also mark a lucite model having a bolt extending through it, and I believe a Lock-O-Seal, as 89.

The Clerk: 89 for identification.

(The exhibit referred to was marked as Plaintiffs' Exhibit No. 89 for identification.)

Q. (By Mr. Fulwider): Now, Mr. Gross, I show you Exhibits 88 and 89. Will you tell us what Exhibit 88 is?

A. This is a torque wrench.

Q. And 89, what does that represent?

A. This is a plastic model which incorporates a hex head bolt and a Lock-O-Seal which has been installed under the head.

Q. Will you just demonstrate momentarily how that operates?

A. Well, when these bolts are installed, the

(Testimony of Bernard Gross.)

torque wrench is simply applied on the head. In this particular case, there has been a hex wrench attached to the torque [274] wrench, and then this torque wrench is turned until the indicator reads exactly what the blueprint calls for. This is the method of applying bolts on aircraft.

Q. What other factors are important besides torque in design and satisfactory seal, fastener seal? A. I am sorry, I didn't hear.

Q. What other factors besides this torqueing factor that you have just discussed are necessary to be considered in designing a satisfactory locking seal? In other words, what are the prime requisites of a fastener seal like this?

A. There are very many considerations.

Q. Could you list some of those for us?

A. Yes. Might I use the blackboard to do it?

Q. Yes. I am sure the court will permit that.

A. This blackboard is kind of small. Could we use the larger one?

Q. Well, the big one won't go through the gate, so we will use this other one. It has two sides and maybe you can use one side and then the other.

(Witness going to blackboard.)

A. It might be well to briefly run through the considerations that one has to bear in mind when we are dealing with a fastener sealing device. For one thing, we must have, obviously, effective sealing. There are many environmental conditions in aircraft which make effective sealing most difficult. [275] Some of these things, like with the tempera-

(Testimony of Bernard Gross.)

ture that we are dealing with—at the time of this invention, that was minus 65 to 200 degrees F. This is quite a range of temperature to have materials perform as they do in the Lock-O-Seal.

Pressurewise, the pressures vary from one atmosphere to almost a vacuum at 80,000 feet, and even in the early part of the war we had airplanes that went as high—they were designed to go as high as 40,000 feet. Unfortunately, due to the ineffective sealing, for one thing, of the cabins, they sometimes held up just about half that or less.

Q. Mr. Gross, when you are facing the blackboard, or away from the court, don't drop your voice.

A. All right. In addition to temperature and pressure, we are dealing with various types of environmental liquids, such as fuel. Aircraft fuels are pretty hard on many materials.

Then there is the environmental item of ozone. Ozone at altitudes readily destroys most types of rubber in a matter of 30 minutes at high altitude if the rubber is exposed.

In addition to these things, there is this matter of vibration. There is quite a large variation of vibration, and this matter of vibration has been a constant problem in aircraft which requires that we don't have failures after relatively long periods of vibration. [276]

So that there are many problems involved in effective sealing.

(Testimony of Bernard Gross.)

In addition to this environment, we have the matter of installation of a sealing device. Installation-wise, we can't damage the skin of the airplane. We must be able to readily install it and we must be able to reinstall it, so reusability is an important item.

Briefly, these things are important. There are others. There is the economics of manufacture, in addition to these items.

These considerations had to be coped with, or these factors had to be coped with in the development of the Lock-O-Seal.

I think if I just made a little sketch here, we could look at some of these things and look at the sealing device itself.

Q. Would it be helpful to turn the board around and then it would be up high?

A. Actually, if we take a typical fastener and we take the sealing ring and its retainer to start with, and then we look at what by now is probably a familiar drawing of the installed configuration, then we might consider some of the things that we talked about.

Now, when the Lock-O-Seal is installed, we actually have an upset of rubber in all directions, and it is important [277] to remember that there are fundamentally four sides involved, and that when the torque is applied to the fastener, the geometry changes, so that starting with what amounts to a point of contact, we increase that contact until we have all four sides practically mated with rubber.

(Testimony of Bernard Gross.)

When this happens, we have pressure. We have resilient pressure, or we have rubber pressure, rubber pressure on all four sides, and we therefore can depend on the memory of the rubber to continue to seal the fastener.

In addition, when this bolt is tightened onto the retainer ring, we have a metal-to-metal contact. There are several things that are involved at this point.

One is that the volume, the geometrical change of the rubber, has been made in such a manner that we are restricting pressure over the elastic properties or some of the elastic properties of the rubber. In other words, if I took a piece of rubber and I loaded it to a given point, then unloaded it, it would come back, but if I went past that point and overloaded it, it wouldn't return to its initial geometry, so that this confined area actually controls the pressure on the rubber, and it remains in its—it can be made to return to its initial geometry.

In addition, when this geometry takes place, it does so in such a manner that the corners are the last ones to fill up. In that manner we prevent any possibility of [278] pinching of the rubber in the various faying surfaces.

I have drawn this bolt in a hole without showing that there is always some tolerance in the hole. We don't want the rubber to go into that space, nor do we want it to go into any other faying surface.

When the device is installed, then there is a metal-to-metal contact, which not only prevents the

(Testimony of Bernard Gross.)

flow of that rubber, due to overloading, and the overloading causing vibration in the surface, in addition. We also carry the tension load of the bolts from the head on to the body which the device is sealing against. This is most important so far as the constant torque of that bolt goes. If there is 21 inch pounds put on the bolt, it must remain so during the surface life. We can only get that by having a metal-to-metal contact.

There are also many other facets to this requirement, and also what the device actually does. I think possibly this gives some sort of a picture of what the requirements are and how the Lock-O-Seal meets them.

Q. Did you discuss the matter of self-centering?

A. No. In the installation requirements, the self-centering of a seal is important so that when we put the seal on to the shank, it is desirable to have this point on top the shank. If that were not so and we had a space between the rubber seal and the shank, we would have a chance [279] for leakage under some conditions on one side, and we wouldn't have the proper geometry flow as another thing. The centering is very important, and the Lock-O-Seal does self-center when you install it.

The Court: In your opinion, a round rubber seal is the only one that works satisfactorily?

The Witness: If it is substantially round.

The Court: Substantially round?

The Witness: Yes.

The Court: You don't think a rectangular seal

(Testimony of Bernard Gross.)

would be satisfactory, providing it extended to the top and bottom there, but didn't touch the sides? You don't think it could be compressed into proper form?

The Witness: That is correct. It would not be satisfactory for several reasons. One is that we would start off with a rectangular geometry, which either had to be exactly the same volume as we have in the void after installation, in which there would be no rubber pressure on the four sides, so to speak, because we don't have a geometry change, or if you had it in excess, you would have the rubber flowing out into the——

The Court: Suppose there was an excess up and down and then you put on the pressure.

The Witness: You mean that way (indicating)?

The Court: Up and down so that part of it hit the [280] top on both sides.

The Witness: This rubber would not have the distribution of pressure that you have with this geometry. Furthermore, this corner would always be pinched in there, and you couldn't hold a torque on the fastener head.

The Court: Then it is your opinion that the only satisfactory O ring would be a round O ring, circular, substantially circular?

The Witness: Substantially circular, yes.

The Court: And that is the only one that works satisfactorily?

The Witness: For the reasons I have given here. I might add, looking at the notes here, that there is

(Testimony of Bernard Gross.)

one important item here that the Lock-O-Seal does, also, in addition to confining the rubber ring. It does protect it from environmental items such as ozone and fuel. Actually, there is a limited exposure there, and it is very effective that way.

(Witness resuming stand.)

Q. (By Mr. Fulwider): In connection with the discussion you just had as to the O ring or the rubber ring having to be circular or substantially circular, is it necessary that it be a full circle, that is to say, completely round or circular, 360 degrees? In other words, if this part here is flattened out, say as with this red chalk, fill in that little area, and [281] that little area there, which are the two voids adjacent the inside of the washer, with the Lock-O-Seal, would you call the resulting ring on this drawing on the blackboard generally circular?

A. Yes.

Q. In other words, that falls within your definition? A. That's right.

Q. Will you explain why?

A. Well, actually, the same geometric change occurs. If this ring were made with such an addition to one side, or part of that side, and it were free to move, we might have some trouble, such as I explained to the court here before, but if it was secured to this, we would have a substantially circular sealing ring without detracting from the basic concept.

Q. In other words, would the sealing ring as I modified it there with the red chalk operate to

(Testimony of Bernard Gross.)

effect a seal here with the proper rubber flow in accordance with the discussion you gave us previously? A. Yes.

Q. Now, in connection with the work that was done there at Rohr, I call your attention to Exhibit 39, the data sheet, which has been marked for identification as Plaintiffs' Exhibit 39——

The Clerk: That is in evidence. [282]

Mr. Fulwider: All right.

Q. Is this a typical data sheet illustrating work done in connection with the designing of various sizes of washers and rubber rings?

A. Yes, I would say so.

Q. Would you explain that just a little bit?

A. Well, this data sheet calls out for dimensions and tolerances which we must deal with in manufacturing such an item as this, and for different bolt sizes. It gives the sizes of the doughnut seal and also the retainer ring.

Q. There are a number of sizes on there?

A. A number of sizes?

Q. Yes. A. Yes.

Q. Calling your attention to the photograph, Exhibit 58, will you explain to the court what that illustrates?

A. This photograph shows an experimental die used to make the doughnut seals. These dies were put in a press with heated platens, and then the doughnuts were removed after pressure was applied and the flash taken off.

Q. Those were dies actually used at Rohr Air-

(Testimony of Bernard Gross.)

craft? A. Yes.

Q. Prior to the end of the war?

A. That's right.

Q. I show you Exhibit 55. Will you tell us briefly [283] what that illustrates?

A. This I recall as part of our manufacturing facilities showing the Lock-O-Seals being assembled.

Q. At Rohr? A. At Rohr, yes.

Q. Will you tell us what Exhibit 54 illustrates?

A. This shows the type of packaging that was used at that time. We were very careful about keeping these seals clean, and so they were put up in the manner shown by this photograph. There were 100 in a box, as I recall, and this shows quite a number of boxes.

Q. Can you tell us briefly about the manufacturing of Lock-O-Seals which were then called screw seals, by Rohr up to the end of the war for its own use and for any other uses?

A. Well, Rohr manufactured their own seals for installation in the Coronado PB2Y3 and for components of other airplanes. I recall the water injection tank used in what is now called the Constellation, which had a designation then which I don't recall, and there were some other applications.

The Court: Can you give me the date as to when Rohr ceased to make its own seals? You said it manufactured its own seals.

The Witness: That's right.

The Court: When?

(Testimony of Bernard Gross.)

The Witness: During the war. At the end of the [284] war we shut down on our manufacturing.

The Court: That doesn't mean anything. Can you give me the year, the date, the month?

The Witness: I can accurately say when the war ended, the day the war ended, we closed that particular end of it.

The Court: What date is that? Let's have no dispute as to the time. What was the date?

The Witness: I don't remember which V Day happened when.

The Court: Was it 1956, 1946, 1936?

The Witness: No, it was 1946, I believe.

The Court: 1946?

The Witness: Yes.

The Court: Is it your testimony Rohr manufactured its own seals until some time in 1946?

The Witness: Up to that time.

The Court: Up to that time?

The Witness: Yes.

The Court: Do you remember what time of the year it was?

The Witness: It was in August.

Q. (By Mr. Fulwider): Is that with respect to your conception of when the war ended?

A. That's right. Honestly, that's right. [285]

Mr. Fulwider: I think the record ought to show, your Honor, the war ended in 1945.

The Court: I know. That is why I insisted on this witness giving me the date, because there is a difference of opinion.

(Testimony of Bernard Gross.)

The Witness: I am sorry, your Honor.

The Court: I don't know when it ended as far as he is concerned. To a fellow in service, I guess it ended after he got out of the service.

So your testimony is August 1946 you ceased making the *sales,* approximately that time?

The Witness: Yes, the end of the war, I am sure, oh, yes.

Q. (By Mr. Fulwider): Now I am confused. Was it in August when the war stopped?

A. Yes.

Q. Or was it in August a year after the war stopped?

A. It was August when the war stopped.

Q. 1945?

The Court: You mean 1945?

Mr. Fulwider: I don't want to lead him, your Honor, but I think it is permissible in this case.

The Court: I have had too much experience with determining these dates. I had a case some time ago involving the termination of the emergency, when the emergency terminated. [286]

Mr. Fulwider: That is a real problem.

The Court: So I don't know when the war ceased. Did it cease with the declaration of peace? Did it cease when the firing stopped? Did it cease when the troops came back? I don't know when the war ceased. So I want to know when you think it ceased, so we have got down to August 1945 then.

The Witness: Yes.

(Testimony of Bernard Gross.)

Mr. Fulwider: All right. I don't think it will be critical in this case.

Q. During the period of manufacture of Lock-O-Seals by Rohr up to the end of the war, or up to the time they ceased manufacturing, were there any discussions between you and people in the laboratory concerning the matter of bonding the rubber rings to the inside of the metal washer?

A. Yes.

Q. Do you remember anyone in particular that you discussed that problem with or who discussed it with you, perhaps?

A. It was discussed within the sealing group. I am sorry that I don't recall the names involved at the moment.

Q. Was Mr. Cornwall a member of the sealing group?

A. He was a member of the group, yes.

Q. I call your attention to Exhibit 36, Rohr laboratory sketch 126. Do you recognize the initials down at the bottom [287] of that?

A. Yes, I have seen that initial many times and I am sure that is his.

Q. What is the date?

The Court: Again we have counsel that can't hear you.

Mr. Fulwider: I am sorry. I dropped my voice.

Q. The question was, do you recognize the initials on that sketch, Exhibit 36?

A. Yes, I do.

(Testimony of Bernard Gross.)

Q. What does that sketch show, what does it say?

Mr. Miller: Just a minute. I will object to that. There is no proper foundation laid for that.

The Court: I don't think you should testify as to what a document shows until it is admitted in evidence. If you do that, there is no necessity of admitting it in evidence.

The Clerk: It is in evidence.

The Court: Excuse me. My fault.

Mr. Fulwider: I wasn't sure. [288]

* * * * *

Q. (By Mr. Fulwider): Now, Mr. Gross, calling your attention to Exhibit 36, I believe you just testified that you recall seeing that sketch. Can you tell me from the initials on it or from your recollection, who made the sketch?

A. Yes. That was made by Leo Cornwall.

Q. Will you explain what the sketch shows?

A. The sketch shows—— [295]

Mr. Miller: Just a moment. I am going to object to this, your Honor. The date on the sketch is December 1944, some three months after this application was filed for the patent in suit.

The Court: We have got a double case here. We have got a case on a patent and a case on unfair competition.

Mr. Miller: That is true.

The Court: We are not segregating the case as far as the evidence is concerned. We are putting in

(Testimony of Bernard Gross.)

the evidence jointly. I don't know whether this is to apply on the unfair competition or what.

Mr. Miller: Obviously, it would have to, because it is subsequent to the filing date.

The Court: Then if it has to, I don't know why it isn't relevant.

Mr. Miller: But I think the foundation should be laid here to show that this sketch or the subject matter of it was disclosed to the defendants.

The Court: Overruled. I think the plaintiff should be allowed to present his case as he wants to present it. He might not present it as you would or I would.

Mr. Miller: No, but I don't think he should be permitted to bring in a whole bunch of miscellaneous documents.

The Court: We don't have a jury here, Mr. Miller, [296] and if there is anything immaterial, I will disregard it. I expect about three-fourths of the testimony in this case I will entirely disregard when I get around to deciding it, including the arguments of counsel.

Mr. Miller: It is a matter of record here to handle, as you indicated, on appeal.

The Court: That's right. Objection overruled.

Mr. Williams: May I interpose my objection and reserve a motion to strike this?

The Court: Motion denied. Go ahead.

Q. (By Mr. Fulwider): Now, Mr. Gross, will you explain briefly what Exhibit 36 shows?

A. This sketch shows a Lock-O-Seal and a note

(Testimony of Bernard Gross.)

is made here that the sealing ring be attached by molding or that—I am sorry—that the sealing ring be attached to the retainer by vulcanization or any similar way of doing it.

The Court: What is the date of that?

Q. (By Mr. Fulwider): Will you hold it up so the court can see it?

A. December 1944.

Q. Do you recall discussing that type of seal with Mr. Cornwall at about the time of that sketch?

A. Yes. He was in the sealing group at that time and we did discuss this.

The Court: Now, Mr. Miller, there is another reason [297] why I think this should be allowed to come in, because I think on your opening statement you said that the defendants here had gone to the inventors or the representatives of the inventors, I don't remember who it was, and suggested that the rubber ring be molded to the metal ring, or the metal washer, and they said it couldn't be done. You said that.

Mr. Miller: That's right.

The Court: But at least that is your position.

Mr. Miller: That is my information.

The Court: Here we have got a memorandum dated 12/21/44, in which there is a notation to the effect that the O ring be molded to the metal ring.

Mr. Miller: I don't know what the significance of that molded means. Does it mean molded to it to fit it with the bond, or does it mean vulcanized to it or cemented to it, or what?

(Testimony of Bernard Gross.)

The Court: It says vulcanization similar to chafing strips. What is a chafing strip?

Mr. Miller: A chafing strip is rubber which has been attached or bonded to metal.

The Court: I think this is material, at least in anticipation of something you said you were going to prove. I have already admitted the evidence, but I am drawing your attention to another reason I think it is admissible. I suppose when you state to the court you are going to prove so-and-so [298] when you have an opportunity to put your witnesses on the stand, that the opposing counsel can rely on that assumption and introduce evidence to the contrary on his case in chief. Don't you think so?

Mr. Miller: Then isn't this evidence out of order?

The Court: I don't agree. I just want to call your attention to the fact that I think this is admissible. All right.

Mr. Fulwider: Since we have closed this phase of the case, I would like to offer in evidence the exhibits about which the witness has been most recently testifying, starting with 49, 56, 57, 88, 89, 39, 58, 55, 54, and 36.

The Court: They may be admitted in evidence.

The Clerk: Just a minute.

Mr. Fulwider: I believe some of them were in evidence previously.

The Clerk: 39 was admitted yesterday.

(Testimony of Bernard Gross.)

Now 36 is in evidence, 49, 54, 55, 56, 57, 58, and 89.

(The exhibits referred to were received in evidence and marked Plaintiffs' Exhibits 49, 54, 55, 56, 57, 36, 58 and 89.)

[See Exhibits 36, 49, 54, 55, 56, 57 and 58 in Book of Exhibits.]

Q. (By Mr. Fulwider): Now, Mr. Gross, turning to the period immediately subsequent to August 1945, did the Rohr Aircraft Company thereafter manufacture Lock-O-Seals, or what [299] were still then known as screw seals? A. No.

Q. Before that, can you tell me from your knowledge approximately how many screw seals or Lock-O-Seals were manufactured by Rohr prior to their shutting down at the end of the war?

A. It is hard to say exactly. I can estimate it on the basis of the number of airplanes I know were delivered and approximately went on an airplane.

Q. Would you give me those figures?

A. There was approximately 800, close to 800, as I have been able to recollect, per airplane.

The Court: 800 what?

The Witness: 800 seals per PB2Y3, and there were 70 some odd airplanes delivered.

In addition to that, we sold some to various naval air bases for maintenance work, and to Pan American Airways, and as I recall, some to Lockheed.

Now, this sounds like a little arithmetic to me, and what I remember of it, I would say close to 100,000 anyway.

(Testimony of Bernard Gross.)

Q. (By Mr. Fulwider): Seals sold or used?

A. Used and sold, yes. It might have been more than that, and probably was, but I have no way of knowing now.

Q. Do you know the defendant Joe Kerley?

A. Yes. [300]

Q. Approximately when did you first meet him?

A. During the war.

Q. In what capacity? How did you happen to meet him?

A. He represented, as I recall it, the McClatchie Rubber Company.

Q. Did you have any conversations or dealings with Mr. Kerley soon after the war, that is, we will say the latter part of 1945 or early 1946, concerning Lock-O-Seals?

A. Concerning Lock-O-Seals?

Q. Yes. A. Shortly after the war, yes.

Mr. Miller: Will you speak louder, please?

The Witness: Shortly after the war, yes.

Q. (By Mr. Fulwider): Who manufactured the Lock-O-Seals commencing in 1946, after the war, do you recall the name of that firm?

The Court: What are you going to do from 1945 to 1946? Was there any manufacturing at all?

Mr. Fulwider: Not as far as I know, your Honor. There was a hiatus there.

The Court: Then we begin in 1946?

Mr. Fulwider: That's right.

The Court: All right.

Q. (By Mr. Fulwider): Do you remember the

(Testimony of Bernard Gross.)

name of Green and Kyle? [301] A. Yes.

Q. The firm of Industrial Specialties?

A. Yes.

Q. Can you tell me very briefly how Rohr became connected with or what type arrangement was made between Rohr and Green and Kyle, and Industrial Specialties, concerning the marketing of screw seals or Lock-O-Seals, and what part Mr. Kerley played in that?

A. Well, as I recall it, Mr. Kerley was interested in the manufacture of these Lock-O-Seals, and arrangements were made by Rohr to license Green and Kyle to manufacture them. As far as I recall, the Industrial Specialties Company was the sales organization.

The Court: Just a minute. Was there a written licensing agreement between Rohr and Green and Kyle?

The Witness: Yes.

The Court: I think the written document is the best evidence. [302]

* * * * *

The Clerk: Exhibit 90.

(The document referred to was received in evidence and marked as Plaintiffs' Exhibit No. 90.) [303]

[See page 756.]

* * * * *

Q. (By Mr. Fulwider): Now, let me ask you this, I am not sure I did, but do you know whether or not Mr. Kerley played a part in the granting of

(Testimony of Bernard Gross.)

the license from Rohr to Green and Kyle to manufacture the Lock-O-Seals?

Mr. Williams: I would object to that as calling for a conclusion of the witness. He can say what happened, if he knows.

Mr. Fulwider: I asked him first, does he know.

The Witness: Yes.

Mr. Miller: Whether he played a part?

The Court: Objection overruled. The answer is yes. It may remain in.

Q. (By Mr. Fulwider): Following the signing of the contract, Exhibit 90, did Green and Kyle enter into the manufacture of Lock-O-Seals?

A. As far as I recall, yes.

Q. Did you have any contacts with Mr. Kerley acting, with him acting on behalf of Green and Kyle? A. Oh, yes.

Q. Did you turn over to Mr. Kerley——

The Court: Now, just a minute. Was Mr. Kerley an employee of Green and Kyle?

The Witness: He was associated with him.

The Court: What do you mean, "associated"?

The Witness: He represented Green and Kyle.

The Court: As a salesman or solicitor or what?

The Witness: Well, as I recall it, he was a part owner.

The Court: How do you know he was a part owner? Did he tell you he was a part owner?

The Witness: Well, he represented them in dealings with and about Green and Kyle.

The Court: I might go out and represent the

(Testimony of Bernard Gross.)

Union Oil Company, but I wouldn't own the Union Oil Company. I might be just an employee. I might be a private in the rear ranks without any authority at all. Did Mr. Kerley ever tell you anything about his connection with Green and Kyle?

The Witness: I talked to him when they were together.

The Court: What do you mean by "they"?

The Witness: When Mr. Kerley and Mr. Kyle were together. They visited together. They visited Rohr together on negotiations.

The Court: I think you can testify as to what was said and what was done, but when you testify that Joe Kerley owned a part of or was associated with Green and Kyle, I think that is purely a conclusion. You can testify to what was said.

Mr. Fulwider: I think at the moment the only question before the court is whether or not he turned over any equipment to Mr. Kerley. [306]

The Court: I don't think that question was asked. That was not the question that was asked.

Mr. Fulwider: I thought that was my last question. Will you read the last question, please?

(Record read.)

Mr. Fulwider: Oh, I see I didn't get to finish it.

The Court: Finish the question.

Q. (By Mr. Fulwider): Did you turn over to Mr. Kerley any equipment, data, or other properties for use by Green and Kyle?

A. Yes, sir, I did.

(Testimony of Bernard Gross.)

Mr. Williams: I object to that. Referring to what? What equipment?

Mr. Fulwider: With reference to the manufacture of Lock-O-Seals.

The Witness: Yes, sir, I did.

The Court: You say equipment and what?

The Witness: Data.

The Court: And data?

The Witness: Yes.

The Court: What did you turn over?

The Witness: All of the tooling that we used in the production of Lock-O-Seals as pictured by these photographs. There were die sets for making retainers. The design of the retainer was quite a complex problem in that you couldn't use [307] that die to make a long run of retainers as you can a common washer, so we had to develop the dies, and, as I recall it, the die sets were turned over, in addition to packaging equipment, and all of the tooling that we had.

The Court: You say tooling and die sets. How about blueprints or experimental data?

The Witness: The data of manufacturing dimensions, dimensions for sizes.

The Court: Did you turn over your files containing——

The Witness: As I recall it, they were data sheets similar to the Rohr lab sketches that you see here.

The Court: How many data sheets were turned over?

(Testimony of Bernard Gross.)

Mr. Williams: I object to this, similar to the data sheets. That is far too vague for me.

The Witness: In character, they were similar to the lab sketches we have been talking about here.

Mr. Williams: But I want to know——

The Court: May I suggest to counsel that we have a reporter here and the reporter is trying to take this all down, and although he is a good reporter, I don't think he can take down three of you at a time.

Mr. Fulwider: I think you are right. Mr. Williams, are you through?

Mr. Williams: I am merely objecting to this going into evidence, there were similar sketches to these sketches. [308] I don't believe that is evidence of any positive act.

The Court: I suppose he meant the sketches introduced in evidence. Is that what you had reference to?

The Witness: Yes.

Mr. Williams: But each sketch introduced in evidence pertains to some specific thing. How can you have something similar to something specific? I object.

The Court: I have overruled the objection. Go ahead.

Q. (By Mr. Fulwider): To clarify the situation, is Exhibit 39 typical of the type of dimension sheets and sketches, manufacturing data, that were turned over to Mr. Kerley for Green and Kyle at the time we are discussing?

(Testimony of Bernard Gross.)

A. This is the type of data and the way it was presented.

Mr. Williams: May I take this witness on voir dire again?

The Court: Yes.

Voir Dire Examination

Q. (By Mr. Williams): Mr. Gross, you are looking at what you term a data sheet.

A. That is what our sketches were in essence.

The Court: Data sheets? [309]

The Witness: Yes.

Q. (By Mr. Williams): Can you testify of your own independent recollection now that the original or a copy of this data sheet was turned over to Mr. Kerley? A. This particular one?

Q. This particular one.

A. No, I couldn't say this particular one was. I said it was typical of the type that he got.

Q. But you can't testify as to which ones they were, is that true? A. That's right.

Mr. Williams: Your Honor please, I move to strike all this testimony. This man is speculating, purely.

The Court: Denied.

Direct Examination—(Resumed)

Q. (By Mr. Fulwider): Did you turn over to Mr. Kerley a number of data sheets?

A. Yes.

Q. Similar to Exhibit 39? A. Yes, sir.

(Testimony of Bernard Gross.)

Q. Did you turn over to him copies of all data sheets and similar dimension sheets that had been used by Rohr up to that time in the manufacture of Lock-O-Seals? [310] A. Yes, sir.

Q. You have mentioned die sets, packaging equipment and tooling. Does the tooling include molds? Did you turn over to Kerley any molds for making rubber rings?

A. Well, there was some single cavity molds, as I recall it, yes, sir.

The Court: May I clarify something here? Were the tooling and dies and data sheets turned over to Kerley or turned over to Green and Kyle?

The Witness: Well, Kerley. These things were given to Kerley in person.

The Court: In person?

The Witness: In person.

Q. (By Mr. Fulwider): And did he tell you at the time that they were to be used by Green and Kyle?

A. I am sure I assumed that, because I was in on the negotiations.

Mr. Miller: I move to strike both the question and answer as leading.

The Court: It may go out. You can't assume. You can just testify what was done.

Mr. Fulwider: I don't think there is any point in belaboring it, because Mr. Kerley will clear the situation up himself.

Mr. Miller: Will you establish the time of the

(Testimony of Bernard Gross.)

[311] transmittal with relation to the contract with Green and Kyle?

Mr. Fulwider: I believe his testimony was it was shortly thereafter.

Mr. Miller: Shortly is an indefinite term. Can you pin it down?

Q. (By Mr. Fulwider): Can you tell, Mr. Gross, about how long after the execution of the Green and Kyle license, which was in 1946, July of 1946, about how long after that it was you turned over this?

A. It was soon thereafter, because I was instrumental in recommending Mr. Kerley, and we were anxious to get him started as soon as possible.

Q. Did Mr. Kerley continue to work with you or to request assistance from you on behalf of Green and Kyle in the manufacture of Lock-O-Seals? A. Yes.

Q. Did you continue to cooperate with Mr. Kerley and with Green and Kyle?

Mr. Williams: May I object, your Honor? We are again calling for a conclusion as to cooperation and working with. Let's have evidence, please, as to what was said and done. This is a very important aspect of the case.

The Court: May I ask a question of counsel?

Mr. Fulwider: Yes, your Honor.

The Court: We have this agreement here that was entered [312] into on the 15th of July 1946. Were the rights under that agreement which was

(Testimony of Bernard Gross.)

obtained by Green and Kyle, or the agreement assigned to anybody or transferred?

Mr. Fulwider: No, your Honor. They expired after Industrial Specialties Company faded out of the picture, and a new agreement was made with the Wolfe Company, and the Wolfe Company employed the successor of Green and Kyle, the Green Rubber Company, to carry on the manufacture. The reason all of this is relevant is because Green and Kyle is the forerunner of today's Rubber Teck. Green and Kyle was a partnership. I don't think there is any argument about it, because Mr. Kerley has testified to all this in his deposition. The partnership was incorporated as Green Rubber, and then changed to Rubber Teck.

The Court: Does Green and Kyle have anything to do with Rubber Teck?

Mr. Fulwider: Yes. It was the forerunner of it.

The Court: Does Mr. Green or Mr. Kyle have any connection with Rubber Teck today?

Mr. Fulwider: No. Mr. Green was part of Rubber Teck when it was first incorporated, but not Mr. Kyle. He dropped out of the scene. This goes to show the entire history of the situation. Rubber Teck grew out of Green and Kyle.

The Court: The thing I am interested in right now [313] is that part of the agreement in which the licensee acknowledges the validity of the patent. Now, assuming that there could be some connection between the licensee of this agreement and the pres-

(Testimony of Bernard Gross.)

ent defendants, do they have a right to come in and question the validity of the patent?

Mr. Fulwider: Unfortunately, there isn't such a connection that will allow us to stand on that covenant, because this particular license was cancelled, and a later license was granted to the Wolfe Company, who then contracted with the Green Rubber Company or Rubber Teck as subcontractors. We considered that.

The Court: You haven't any evidence to raise the question of estoppel as far as these defendants are concerned?

Mr. Fulwider: No. We are not going to contend that, your Honor. [314]

* * * * *

Q. (By Mr. Fulwider): Having in mind that the contract, Exhibit 90, is dated July 1946, approximately how long after that did the Franklin C. Wolfe Company start marketing Lock-O-Seals manufactured by Green and Kyle?

The Court: Just a minute. Which contract are you referring to?

Mr. Fulwider: Exhibit 90, I said.

The Court: Defendants' Exhibit 90?

Mr. Fulwider: I meant to say Exhibit 90.

The Court: Maybe you did and maybe I wasn't listening. Exhibit 90, that is the contract. Do you remember the question now?

The Witness: Yes. How long after the contract, that is the contract that was——

Q. (By Mr. Fulwider): Between Rohr and

(Testimony of Bernard Gross.)

Green and Kyle. A. I don't recall.

Q. You don't recall? A. No.

Mr. Fulwider: All right. I think this might be a good time to get the next contract in to clear up the situation. It is also attached to Shepard's deposition, I believe.

Will you mark that 91, please? [317]

* * * * *

The Clerk: 91 for identification.

(The document referred to was marked Plaintiffs' Exhibit No. 91 for identification.)

* * * * *

The Court: It may be admitted in evidence.

The Clerk: Exhibit 91.

(The document referred to was received in evidence and marked as Plaintiffs' Exhibit No. 91.) [321]

[See page 762.]

* * * * *

Q. (By Mr. Fulwider): Mr. Gross, I believe just before the noon recess, you stated you had turned over certain equipment and information to Mr. Kerley in 1946. Thereafter, during the period from that time in 1946 up through 1953, did you have occasion to see Mr. Kerley from time to time?

A. Yes.

Q. Approximately how often on the average during that period of years?

A. Well, I would say on an average of twice a month.

Mr. Miller: Did you say twice a month?

(Testimony of Bernard Gross.)

The Witness: Yes.

Q. (By Mr. Fulwider): Did you on those occasions discuss Lock-O-Seals with Mr. Kerley?

A. Yes, as relates to new applications and testing, which was going on continuously.

Q. And manufacturing? [324]

A. Yes. [325]

* * * * *

Q. (By Mr. Fulwider): Did Mr. Kerley tell you he was an employee or partner or an officer of Green Rubber Company, which name was later changed to Rubber Teck?

A. Yes, he did. That was a corporation and he was an officer of the corporation. He told me so and I understood it to be that way because he told me so.

The Court: What officer did he tell you he was?

The Witness: Your Honor, if I recall, he was secretary. He told me he was secretary.

Mr. Williams: That was as to Green Rubber Company?

The Witness: That was the question.

Mr. Williams: That was not Green and Kyle?

The Witness: But I believe the question as Green Rubber.

Q. (By Mr. Fulwider): Yes, the question was Green Rubber, which subsequently became Rubber Teck. During the period of time from, say, 1947, 1948, up through 1953, did you as director of the Rohr laboratory have occasion to run various tests and make various reports in connection with Lock-

(Testimony of Bernard Gross.)

O-Seals and materials that went in them, which were made for the purpose of manufacturing Lock-O-Seals or getting government [328] approval on further applications?

Mr. Miller: That is putting words right in his mouth. Ask him what he did and what the purpose was.

The Court: Haven't we gone over this once before?

Mr. Fulwider: I was trying to lump it all together.

The Court: I thought we had gone over this before. He has testified what was done.

Mr. Fulwider: That he ran lots of tests, but they were mostly in the early period. We have a few reports out of a great mass we brought in that I want to introduce as illustrative of the test work done during the latter period or for the benefit of the manufacturing processes. It is very material. We have alleged in our pleadings that tests were made and other work was done, that the defendants got the benefit of that, and that is part of the information that was turned over to them which they have used subsequently. I was trying to get to them as quickly as possible.

The Court: I don't think you better just ask an overall question, a catch-all question. You can show those tests to the witness, like you did before, and let him identify them.

Mr. Fulwider: That is exactly what I plan to do.

(Testimony of Bernard Gross.)

The Court: You asked a question that was all-inclusive. Objection sustained.

Q. (By Mr. Fulwider): I call your attention first, Mr. [329] Gross, to Plaintiffs' Exhibit No. 1 for identification, which is on the report sheet of Rohr Aircraft Corporation. Can you tell me what that is?

A. That is a data sheet on tolerances of the Lock-O-Seal, at that time a new set of tolerances for manufacturing purposes, and that is my signature, too.

Q. Is that illustrative of the tests that were run over that period of time?

A. Yes, I would say so.

Q. Does that have dimensions as both the rubber ring and the metal washer? A. Yes.

Q. I will show you Exhibit No. 24. Will you examine this and tell me briefly what it contains, what it illustrates as to tests that were run in your laboratory?

A. This is a laboratory report that deals with the seals, and in particular with the bolt compression loads versus the impression in materials.

Q. Is that your signature on the report?

A. I was just looking for that. Yes, that is my signature on the report.

Mr. Williams: May we have the date on that?

Q. (By Mr. Fulwider): What is the date on that, Mr. Gross? A. The date 10/1/48. [330]

Mr. Miller: Which exhibit?

Q. (By Mr. Fulwider): That is on Exhibit 24?

(Testimony of Bernard Gross.)

A. 24.

Q. And the date on No. 1, will you take a look at that? A. The date is 5/18/49.

Q. Now, I hand you Exhibit 25, entitled Laboratory Report, dated 10/10/49. Will you tell us what type of test that illustrates, and is that signed by you?

A. That is signed by me with my own seal, and it deals with Lock-O-Seals, and in particular hex head bolts and rivets and——

Mr. Williams: We can't hear the witness.

The Witness: I'm sorry. I say this report deals with Lock-O-Seals and in particular hex head bolts and rivets, particularly the round head rivets.

Mr. Miller: That is exhibit what?

Mr. Fulwider: 25.

Q. Now, Exhibit 26 is entitled Laboratory Report, dated 10/17/49. Is that your signature?

A. That is my signature and my seal.

Q. What type test work does that report cover?

A. That deals with Lock-O-Seals and in particular the Lock-O-Seals, a new size of Lock-O-Seals compared to the current type of B-36 Lock-O-Seals.

At that time there was a pretty urgent call for [331] something which would improve the leakage on the B-36. It was a major problem and we had quite a bit of work, which was subsequently used, as far as I know.

Q. I call your attention to Plaintiffs' Exhibit 18, headed Laboratory Report, dated 2/3/50, and to a letter dated April 24, 1950, which is Exhibit 6.

(Testimony of Bernard Gross.)

Will you tell us what tests were performed in connection with the report, Exhibit 18?

A. This report deals with the functional testing of a sealing ring and determines whether or not it meets military specifications. It is signed by me. This letter is a letter of transmittal of this report to Mr. Joe Kerley of Rubber Teck, Inc., dated 24 April 1950.

Q. And the letter of transmittal, I believe, refers, does it, to Exhibit 18?

A. That is correct.

Q. Which is gravity test RT-1007?

A. That's right.

Mr. Miller: What is the date of the letter, Mr. Gross?

The Witness: The date of the letter is April 24, 1950.

Mr. Miller: Was that letter identified as Plaintiffs' Exhibit 6 for identification?

The Witness: Yes. [332]

Mr. Fulwider: Yes.

Q. I call your attention to Plaintiffs' Exhibit 19, Rohr Laboratory Report dated 11/18/50. Will you tell us the purpose of those tests, what tests are covered in that?

A. Yes. This test deals with the functional test in various types of environment of Lock-O-Seals. This report covers, as I recall it, some three months of intensive testing.

Q. Is that your signature on the report?

(Testimony of Bernard Gross.)

A. This report has been signed by me and was under my direct supervision.

Q. I call your attention to Plaintiffs' Exhibit 27, Rohr Laboratory Report, dated 10/18/49. Is that your signature?

A. That is my signature.

Q. Will you tell us what that report covers?

A. Yes. This report deals with Lock-O-Seals and involves the testing of the Lock-O-Seal 200 series versus the current B-36 type, or current at that time. It specifically had to do with the torque testing of bolts with these two types of seals.

Q. I show you Plaintiffs' Exhibit 28, Rohr Laboratory Report dated 1/5/51, which is unsigned. Do you recall this report? Can you tell me whether or not the original went out? That is a carbon copy.

A. This report deals with Lock-O-Seal 200-AC series and is a summary of evaluation tests, including four referred to reports. It was signed by me, at least the original was, I am sure.

Q. As to Exhibit 29, reproductions of three photos, lab report E-159, undated, do you recognize that? Can you tell me what it is?

A. This represents what we know of as a photo lab report and gives the procedure and results of testing Lock-O-Seals in steel tubular sections, and in particular engine mounts. It was possible with this seal to improve on all of the major airplane engine mounts by the use of these Lock-O-Seals and to test them in service, which was impossible before this time. The testing bolt could be taken out and

(Testimony of Bernard Gross.)

freon gas was used, and then after the testing bolt was put back and it was again properly sealed so that at altitude there was no taking on of air, coming down from altitude, with subsequent corrosion and failure of engine mounts.

Q. I call your attention to Plaintiffs' Exhibit 20, which is a Rohr laboratory report dated 3/8/51. Will you tell us the purpose of the test work described in that report? Perhaps you may wish to refer briefly to some of the photos in there.

A. This report had to do with the sealing of integral structures, and in particular channel sealing Lock-O-Seals, in [334] this case Lock-O-Seals being used in connection with a newly-developed channel sealing. These test cubics were prepared and sent to Wright Field, and they went through 18 months of rigid testing. As a result of this work, this combination was used and is being used now on major airplanes, including the Grumman Tiger, Chance-Vought Crusader, and others.

Q. Referring to Exhibit 3, which is a series of reports bearing different dates, can you tell me the purpose of these reports and for whom they were prepared?

A. Shall I refer to the numbers?

Q. It would be better, yes.

Mr. Miller: And will you read the date, please, Mr. Gross?

Q. (By Mr. Fulwider): As to each one referred to, call out the date.

A. Exhibit 3, dated 6/27/50, deals with the test-

(Testimony of Bernard Gross.)

ing of synthetic rubber in accordance with U. S. Air Force specification, and it was performed on RT-213 submitted to us by Franklin C. Wolfe Company. Exhibit No.——

Q. They are all part of Exhibit 3.

A. This report dated June 1950 deals with tests in conformance with Air Force specifications, and it was on a material compounded and submitted to us from the Rubber Teck, Inc.

This report dated 5/1/51 deals with the testing of [335] synthetic rubber which was of the weather-resistant type in conformance with aeronautic specifications, aeronautic material specifications.

This report dated August 1951 deals with the testing of synthetic rubber in accordance with Air Force specifications. The RT-213 was submitted from the Rubber Teck Corporation.

The next report is dated 9/28/51 and also deals with testing of synthetic rubber in accordance with military specifications. The compound RT-213/40A from the Rubber Teck Corporation was submitted to us for this test.

Report of 9/28/51 deals with testing of a rubber compound RT-213-40 from the Rubber Teck Corporation. That was tested in accordance with military specifications.

Report of 9/28/51 deals with testing of synthetic rubber, compound RT-213-40, submitted to us from the Rubber Teck Corporation and was tested in accordance with military specifications.

This report deals with the environmental testing

(Testimony of Bernard Gross.)

of rubber identified as RT-172-40, a sample received by us on 9 February 52.

The laboratory report dated 4/15/52 deals with the testing of synthetic rubber.

On compound RT-130-70 from the Rubber Teck Corporation, tests were made in accordance with military specifications. [336]

Report dated 1/29/53, tests were made in accordance with military specifications on compound RT-171-80 from the Rubber Teck Corporation.

Mr. Phipps: May I ask the RT numbers again?

The Witness: RT-171-80 on 1/29/53, and the report deals with the testing of synthetic rubber in accordance with military specifications and was submitted to us by Rubber Teck and identified as RT-170-160.

On 3/4/53 a report deals with the testing of synthetic rubber identified as RT-172-40, synthetic rubber.

A report dated 6/10/53 deals with the testing of synthetic rubber identified as RT-184-60 in accordance with military specifications.

The report dated 11/30/53 deals with tests on synthetic rubber examined for its low temperature resistance.

Q. (By Mr. Fulwider): The RT numbers in those designations, where did they come from?

A. RT was an abbreviation or a designature used for material from Rubber Teck.

Q. I believe you mentioned some of these reports were made by Rubber Teck. Can you tell me

(Testimony of Bernard Gross.)

which ones were other than the ones you mentioned? Are any of the first ones made for Rubber Teck?

A. Well, I believe I mentioned those. I gave that. [337]

Q. You did? A. Yes.

Q. Thank you. I missed some of the first ones. I have two more only.

I call your attention to Plaintiffs' Exhibit 4, which is Rohr lab report dated 3/13/52. Will you explain that briefly for us and who that was for?

A. This report MP-133, dated 3/13/52, deals with the functional performance of sealing rings in accordance with military specifications, made from Rubber Teck RT-5500. This is one of the tests, as I recall it, that took approximately three months of continuous work.

Q. As to Exhibit 5, Rohr lab report dated 3/17/53, will you tell us.

A. Rohr lab report MP-192, dated 3/17/53 deals with the functional testing at environments specified and military specifications. The material used was Rubber Teck RT-167-60.

Q. Were all those reports about which you have testified made under your direction? A. Yes.

The Court: Do I understand Rubber Teck asked you to make these tests or asked Rohr to make the tests?

The Witness: That's right.

The Court: These were tests actually made for Rubber Teck? [338]

(Testimony of Bernard Gross.)

Mr. Fulwider: I think the latter ones, that is true.

The Witness: The ones that are so marked, yes.

Q. (By Mr. Fulwider): Is that true of the last three, three, four, five?

A. Well, I think I indicated that when I discussed them.

Q. Part of 3 and all of 4 and 5, is that correct?

A. Part of 3, yes, that's right.

Mr. Fulwider: I would like to offer all those tests in evidence, being Exhibits 1, 24, 25, 26, 27, the letter No. 6, reports 18, 19, 27, 28, 29, 20, 3, 4, 5.

The Court: They may be received in evidence.

The Clerk: Exhibits 1, 3, 4, 5, 6, 18, 19, 20, 24, 25, 26, 27, 28 and 29.

(The exhibits referred to were received in evidence and marked as Plaintiffs' Exhibits 1, 3, 4, 5, 6, 18, 19, 20, 24, 25, 26, 27, 28, and 29.)

[See Nos. 1 and 3 in Book of Exhibits.]

[See Exhibit 6 at page 743.]

Q. (By Mr. Fulwider): Now, Mr. Gross, you mentioned that some of those reports were made directly for Rubber Teck. Can you tell me the purpose for which those tests were made?

A. Well, as far as I know, it was technical assistance to Rubber Teck to assist them in manufacturing of the seals for Franklin C. Wolfe.

Q. Were you ever advised by Rubber Teck that the materials [339] submitted to you for testing upon which you submitted reports would be used in making products competitive with those of Franklin C. Wolfe? A. No.

(Testimony of Bernard Gross.)

Q. Were you ever advised by Rubber Teck or any of the defendants that they planned to manufacture with materials submitted to you for test Duo-Seals? A. No.

The Court: May I inquire, here you have a license agreement under which you licensed Franklin C. Wolfe Company. Now, did you have a license agreement with Rubber Teck?

The Witness: No, but there was an agreement between the Franklin C. Wolfe Company and Rubber Teck.

The Court: Was that agreement in writing?

The Witness: I have never seen it. I thought that it was. I had that understanding, I might say.

The Court: May I ask counsel, was there such an agreement in writing?

Mr. Fulwider: There was an agreement written up. The parties seem to feel it was signed. We are not sure on the signing, but everybody seems to agree it was operated under for some years. It was a manufacturing arrangement between the Wolfe Company and Rubber Teck, made at the same time as this license to Wolfe.

Is that a fair statement, Mr. Miller? [340]

Mr. Miller: No. The draft we have seen was an unsigned carbon made out between Franklin C. Wolfe Company and Joe Kerley.

Mr. Fulwider: I don't want to get into a discussion of it, but I was basing my statement on Mr. Kerley's deposition.

Mr. Miller: Isn't it an exhibit here?

(Testimony of Bernard Gross.)

Mr. Fulwider: If it is, let's put it in at this time.

The Court: I want to know why Rohr was doing anything for Rubber Teck, unless there is some connection here between Rubber Teck and Wolfe.

Mr. Fulwider: On the matter of the agreement between Wolfe and Rubber Teck, we would like to offer in evidence Plaintiffs' Exhibit 17, which is an agreement, unsigned, but dated 29 November 1948 between Franklin Wolfe Company and J. Kerley.

The Court: It may be received in evidence.

The Clerk: Exhibit 17.

(The document referred to was received in evidence and marked as Plaintiffs' Exhibit No. 17.)

[See page 747.]

The Court: May I inquire, this license agreement between Rohr and Franklin C. Wolfe was never considered as an exclusive agreement, was it?

Mr. Fulwider: The first license was not exclusive. [341] There was a subsequent license which was dated in 1950, which we are planning to introduce later, and this might be a good time to get that in, and then we have agreements in which the license was made exclusive, but the manufacturing arrangement between Wolfe Company and Rubber Teck continued unchanged. That was attached also to the Shepard deposition.

The Court: Now, what is the number of the unsigned agreement?

Mr. Lee: 17, your Honor.

(Testimony of Bernard Gross.)

Mr. Fulwider: Will you give us the next number for this one?

The Clerk: Exhibit 92 for identification.

(The document referred to was marked as Plaintiffs' Exhibit No. 92 for identification.)

Mr. Fulwider: Is this admitted, your Honor? It supersedes the one you are looking at now.

The Court: It may be received in evidence.

The Clerk: Exhibit 92.

(The document referred to was received in evidence and marked as Plaintiffs' Exhibit No. 92.)

[See page 768.]

Q. (By Mr. Fulwider): Mr. Gross, when did you first hear of the Duo-Seal manufactured by the defendant Rubber Teck?

A. As I recall it, I saw it at the Society of Automotive Engineers exhibit in Los Angeles. [342]

The Court: When?

The Witness: I am trying to recall when the meeting was.

Q. (By Mr. Fulwider): Had you heard of the existence of the Duo-Seal prior to seeing it at the SAE meeting?

A. No. That was the first time.

The Court: Can you stipulate as to when this meeting was? The fact that there was a meeting doesn't mean anything to me.

Mr. Fulwider: It was in 1954 some time.

The Court: Do you agree?

Mr. Miller: I don't know anything about it.

(Testimony of Bernard Gross.)

I don't think it makes very much difference when it was after we started. I think the dates can be established when we started. I can't understand the materiality of this. What difference does it make when Mr. Gross first saw it? In other words, he may have seen it last week for the first time.

The Court: I assume that if the holder of a patent knows his patent is being infringed and doesn't do anything about it, allows people to go ahead, that there might be raised a question of estoppel, or something like that. I don't know what the idea is.

Mr. Miller: But he didn't own the patent in 1954.

The Court: But you are trying to show when he first saw it. Maybe we can stipulate when it was first placed [343] on the market.

Mr. Miller: I can't understand the materiality. It would be about the same as when Mr. Murphy saw it.

The Court: I don't understand the materiality of a lot of these exhibits yet.

Mr. Fulwider: They will all tie in together.

The Witness: Your Honor, I believe it was in 1953, the SAE meeting in Los Angeles.

The Court: 1953?

The Witness: Yes, sir.

The Court: All right.

Q. (By Mr. Fulwider): At any rate, you saw it after it was on the market?

A. Yes, I saw it in an exhibit at the——

(Testimony of Bernard Gross.)

Mr. Miller: I object.

The Court: Counsel, you are extending the answer. He said he saw it. He didn't say anything about seeing it on the market or seeing it for sale. He saw it at an exhibit. So don't extend his answer.

Mr. Fulwider: I was just trying to clarify something. I have one more question.

Q. Mr. Gross, you had personal charge of all this test work about which we have been testifying, didn't you? A. Yes.

Q. Have you formed an estimate of the cost to Rohr of [344] the laboratory work done in connection with Lock-O-Seals?

Mr. Miller: Object to that as calling for a conclusion, your Honor. We have gone through that with Mr. Wynne.

The Court: Read the question.

(Question read.)

The Court: Well, I am going to sustain the objection until the proper foundation is laid. He has testified as to the work that was done. I don't know what kind of records were kept, whether there was any cost accounting kept. I don't know whether this witness knows how much time individuals put upon certain of the projects.

Mr. Fulwider: It seems to me, he being in personal contact with the entire program and in charge of the laboratory throughout, that his opinion as a person personally connected and as an expert in this type of business is admissible.

The Court: Well, I don't agree.

(Testimony of Bernard Gross.)

Mr. Fulwider: That's all. [345]

* * * * *

JOE KERLEY

called as a witness on behalf of the plaintiffs, under the provisions of Rule 43(b) of the Federal Rules of Civil Procedure, having been first duly sworn, was examined and testified as follows:

* * * * *

Direct Examination

Q. (By Mr. Fulwider): Mr. Kerley, you are one of the defendants in this [352] case, I believe?

A. Yes, sir, I believe so, too.

Q. Were you one of the incorporators or first directors of Rubber Teck Corporation, originally known as Green and Kyle? A. Yes, sir.

Q. I don't mean Green and Kyle, I mean Green Rubber and Machine Works. A. Yes, sir.

* * * * *

Q. (By Mr. Fulwider): Were you ever an officer of Rubber Teck Corporation?

A. Yes, sir.

Q. What office did you hold?

A. Secretary and treasurer.

Q. During what period of time? That is to say, were you secretary and treasurer from the beginning?

A. From the time it was incorporated until July of 1944, I believe.

The Court: Wait a minute. It was incorporated in 1947.

Q. (By Mr. Fulwider): You mean 1954?

(Testimony of Joe Kerley.)

A. 1954, I beg your pardon.

Q. Were you also a stockholder of Rubber Teck? A. Yes, sir.

Q. And what percentage of stock did you hold?

A. Well, it varied a little bit. I believe it was around 32 per cent at the last.

Q. Are you a stockholder now?

A. No, sir.

Q. You had about 32 per cent when you disposed of your stock. [354]

A. When I sold out.

Q. Yes. And to whom did you sell?

A. I sold to Mr. Karres and Mr. Grass.

Q. When was that made?

A. In July of 1954, approximately.

Q. Did you also resign as an officer and director at that time? A. Yes, sir.

Q. You were a director throughout the entire time that you were a member of the corporation?

A. That's right.

Q. How many directors are there on the board of directors of Rubber Teck, or were there at the time you left? A. Three.

Q. Who were they?

A. Mr. Grass, Mr. Karres and myself.

Q. During the last war, I believe you were sales manager of the aircraft division of McClatchie Company? A. Yes, sir, that's right.

Q. And in connection with your duties in that position, did you have occasion to call on and become acquainted with Mr. Gross at Rohr?

(Testimony of Joe Kerley.)

A. Yes, sir.

Q. Did you know Mr. Gross in 1944?

A. Yes, sir. [355]

Q. Did you call on the Rohr Company during the years 1944 and 1945? A. Yes, sir.

Q. You knew then, I take it, that commencing in the latter part of 1944 or the early part of 1945 that Rohr Aircraft Company was manufacturing a sealing device then known as the screw seal, now known as the Lock-O-Seal?

A. That was in 1944 and 1945?

Q. Yes. A. Yes.

Q. Was the sealing device, which we will call Lock-O-Seal, because it was subsequently known by that name, successful as manufactured by Rohr?

A. Well, I would say it was.

Q. In other words, it did the sealing job for which it was designed? A. I believe so.

Q. You were familiar, also, I take it, with the fact that Rohr was actually using the Lock-O-Seal on ships, airships, aircraft, which it was converting during 1944 and 1945? A. That's right.

Q. Subsequent to August 1945, which was the date of the cessation of armed hostilities in the last war, did you approach Rohr Aircraft Company in connection with the manufacture or sale of Lock-O-Seals? [356]

A. I am not positive of the date, but I did approach them.

Q. And would that have been perhaps early 1946, six months or so after the war stopped?

(Testimony of Joe Kerley.)

A. It could be along there. I am not positive of the date.

Q. I call your attention to Exhibit 90, which is an agreement between Rohr Aircraft and Green and Kyle, dated July 15, 1946. Having that date in mind, when would you say that you called on Rohr in connection with the manufacture and sale of Lock-O-Seal?

A. Well, I would say that it was quite a number of months before that.

Q. Probably early in 1946, then?

A. Yes, it would have been. It could have been the latter part of 1945 or the early part of 1946.

Q. At that time did you know two men by the name of Green and Kyle who were operating a firm under the name of Green and Kyle?

A. Yes, sir.

Q. I believe in 1946, sometime prior to the execution of that contract, Exhibit 90, that you took Mr. Green and Mr. Kyle down to San Diego to meet Mr. Shepard of Rohr, did you not?

A. That's right. [357]

Q. What was the purpose of that conference, if you know?

A. The purpose of taking Mr. Green and Mr. Kyle to Mr. Shepard?

Q. Yes.

A. It was to negotiate a contract between them for the manufacture of the seal.

Q. That's right, and you acted somewhat in the capacity of negotiator, that you brought the parties

(Testimony of Joe Kerley.)

together? A. That's right.

Q. Did you also——

The Court: May I inquire?

Mr. Fulwider: Pardon me, your Honor.

The Court: What were you to do down there, just make a contact for the purpose of making a commission on the contract?

The Witness: Well, yes, sir, your Honor.

The Court: Were you a broker of any kind?

The Witness: No, sir.

The Court: You were just bringing these parties together?

The Witness: At that time I was employed by the McClatchie Manufacturing Company.

The Court: You were bringing these parties together.

The Witness: That's right. [358]

The Court: Were you to get paid for bringing them together by either side?

The Witness: Yes. I wanted five per cent of the over-all of the manufacturing.

The Court: You were to get a five per cent commission, then, if the deal was made, is that right?

The Witness: Yes, sir, that's right.

Q. (By Mr. Fulwider): That was to be five per cent on the sales made by Green and Kyle of Lock-O-Seals?

A. Yes. That would be the—of the Lock-O-Seals that they delivered to Industrial Sales.

Q. Were you instrumental in bringing Indus-

(Testimony of Joe Kerley.)

trial Specialty Company in as a selling agent for Green and Kyle?

A. No, sir. I had nothing to do with that.

Q. You were aware of the fact that they were operating at that time as sales agent for Green and Kyle?

A. Well, yes. They were brought in by the Rohr Aircraft. The negotiations, so far as I know, was always with Rohr Aircraft.

Q. Now, were you familiar with the contract, Exhibit 90, at or shortly after the time it was executed? A. Yes, sir.

Q. You sat in on at least some of the conferences between Messrs. Green and Kyle and people of Rohr in connection with that contract? [359]

A. Two, as well as I remember.

Q. Do you recognize the signatures of the people on that contract?

A. Well, you know, I am not—it has been a long time. I am not familiar with their signatures, but I assume this is their signatures.

Q. Do you know whether or not Green and Kyle did in fact operate under that license agreement?

Q. Do I know that they did operate under it?

Q. Yes. A. Yes, sir.

Mr. Fulwider: I would like to offer that in evidence, your Honor, or is it already in?

The Court: Is 90 in? I think 90 is in evidence.

The Clerk: It is already in.

The Court: You got the five per cent of the sales made under that contract?

(Testimony of Joe Kerley.)

The Witness: No, sir, I never received any.

The Court: You never did?

The Witness: There wasn't enough sold to make it worth-while.

* * * * *

Q. (By Mr. Fulwider): After Green and Kyle took over the [360] manufacture of Lock-O-Seals, did you have any connection with Green and Kyle and Rohr with respect to the manufacture of Lock-O-Seals?

A. Yes. There was, I would say, several conversations on the manufacturing of it.

Q. I believe you acted pretty much as a liaison man between Green and Kyle and Rohr there for some time, did you not? A. That's right.

Q. Shortly after the Green and Kyle license of July, 1946, Exhibit 90, was made, Mr. Gross on behalf of Rohr turned over to you all of the equipment that Rohr had at that time for the manufacture of Lock-O-Seals, did he not?

A. What there was of it. I imagine we got most of it, but very little.

Q. What he had, you got, as far as you know?

A. There was a few single cavity experimental molds.

Q. Speak up.

A. Maybe some single cavity experimental molds, a die set or two. Nothing in the way of production equipment.

The Court: Any plans, any blueprints?

The Witness: I wouldn't call them blueprints,

(Testimony of Joe Kerley.)

your Honor. There were some sketches of different sizes.

The Court: Any results of any experiments, tests?

The Witness: I don't remember any experiment or [361] test at that time.

The Court: Well, would you classify the papers that you got as few, or were they voluminous? You got some papers.

The Witness: Yes, we got some papers that I am speaking of. There wouldn't have been any great quantities, because there wasn't too many sizes made at that time.

Q. (By Mr. Fulwider): I believe there were only about two or three popular sizes that had been made in quantity at that time.

A. That's right. There wasn't any quantity on any size at that particular time.

Q. As compared to what you have now.

A. Yes.

Q. But whatever you needed in the way of data sheets and sketches and such to manufacture those sizes of Lock-O-Seal were given to you by Mr. Gross, weren't they?

A. Well, some of those could have been received directly from Industrial Specialties.

Q. Some of them may have come to you from Rohr, too, and Industrial? A. That's right.

Q. Since Industrial was handling the sales.

A. That's right.

Q. But from one or the other, either Rohr or

(Testimony of Joe Kerley.)

Industrial, [362] you got all the data sheets and sketches and information like that that Green and Kyle needed to get into this manufacturing business of Lock-O-Seals, didn't you?

A. To start with, yes.

Q. Did Mr. Gross work with you in this early period, assist you in—when I say you, I mean Green and Kyle, in trying to get started and getting started in this business?

A. Well, in a way of some information, the information that he might have given. Also, we might call up there and ask for some information on how they construed it should be done, too.

Q. He gave you during that period of time all the cooperation that you requested, didn't he?

A. I would say so.

Q. All the assistance that you needed to get into business. A. Yes, sir.

The Court: That is a conclusion, all the assistance needed. I don't know about that. He cooperated.

Mr. Fulwider: I know they are very general questions, your Honor, but he was asked similar questions in the deposition and answered as he has today, and because he is an adverse party, I thought it would be proper.

The Court: All right. Go ahead.

Q. (By Mr. Fulwider): I believe Mr. Gross also turned [363] over to you for Green and Kyle in 1946 some samples of Lock-O-Seals that Rohr had on hand at that time, did he not?

(Testimony of Joe Kerley.)

A. You mean of the finished product?

Q. Yes. A. Yes, there was a few.

The Court: Did he turn over not only the samples, but the seals that he had manufactured?

The Witness: I imagine, your Honor, that there were some seals that they had manufactured themselves.

The Court: Did they turn over the stock to you or just some samples?

The Witness: Just samples.

The Court: Just samples.

The Witness: There might have been—I would like to go back a little ways. There might have been a few—there might have been what you would call just samples. There weren't very many, though.

Q. (By Mr. Fulwider): I think I misspoke in calling them samples. They were actually production seals, some of the inventory that Rohr had on hand at the close of the war, I take it?

A. Yes. I would say a very small amount of inventory.

Q. At least several boxes. A. Yes.

Q. I believe those boxes held about a hundred, did they [364] not? Do you remember?

A. I don't remember. Could be.

Q. Now, Green Rubber Co. was formed in 1947. Was that the time you left McClatchie Company?

A. I left McClatchie Manufacturing in March, 1947. [365]

* * * * *

Q. The fact is, isn't it, Mr. Kerley, that the

(Testimony of Joe Kerley.)

business which was being operated as Green and Kyle was turned over, merged into the Rubber Teck Corporation?

A. When Mr. Kyle left them, it became known as the Green Rubber Company.

Q. Mr. Green did business a little while himself as the Green Rubber Company before he incorporated, is that right?

A. It might have been just a few weeks or a month there.

Q. Then all those assets pertaining to the rubber business were turned over to the corporation when it was formed?

A. As well as I remember.

Q. As a matter of fact, the corporation, Rubber Teck Corporation, then Green Rubber, continued to operate in the same place of business, didn't it, at the beginning? A. A very few months.

Q. And took over all the facilities and the place of business and just carried on? [367]

A. That's right. [368]

* * * * *

Q. (By Mr. Fulwider): Now, Mr. Kerley, what were your duties with Rubber Teck Corporation in the first year of its operation?

A. Well, just about everything to get the company going and keep it going.

Q. In other words, you had to do with both production and sales, I take it?

A. That's right.

Q. Now, in the next two or three years after

(Testimony of Joe Kerley.)

the incorporation of Rubber Teck, in the middle of 1947, were additional sizes of Lock-O-Seals manufactured and put on the market?

A. I am a little confused here. Did you say Rubber Teck in 1947?

Q. Yes, then known as Green Rubber.

A. Oh. Now, give me the question again, please.

Q. During the two- or three-year period immediately after Green Rubber Company, which is Rubber Teck, took over the Lock-O-Seal business, were additional sizes developed and manufactured and put on the market?

A. It is pretty hard to remember. There could have been a few extra sizes in there. I would hesitate to name any specific sizes.

Q. Then in terms of the years 1948, 1949 and 1950, there were quite a number of additional sizes of Lock-O-Seals [374] put on the market, were there not?

A. Yes, there was quite a number of larger sizes developed.

Q. And then did Mr. Gross or Rohr Aircraft work with you and your Rubber Teck Company in developing these new sizes, as they were called for?

A. Yes. There was quite a bit of cooperation there between the companies.

Q. And as new sizes were designed and manufactured, it was your practice to send them down to Mr. Gross at Rohr for testing, was it not?

A. We are speaking of 1950 now?

Q. Yes, the period of 1948 through 1950.

(Testimony of Joe Kerley.)

A. Yes. I wouldn't say all of them were sent down. If he requested we make a certain size and send it down for test, I would say we sent it.

Q. The dimensions, tolerances, and such for these new sizes, as they were developed, were furnished to you by Rohr, were they not?

The Court: What do you mean? Did Rohr say, "I want a seal two inches in diameter and a tolerance of so and so, you build it," or did they give you a blueprint and say, "Build it according to the blueprint"? What do you mean?

Mr. Fulwider: I am coming to that.

The Court: I don't know what you are talking about. [375]

Mr. Fulwider: Well, I can ask him that question now. I planned to ask him that about the second question from here.

Q. During the period about which we are speaking, Rohr furnished to you data sheets or sketches, did they not, having the dimensions and tolerances for the new sizes as they were developed?

Mr. Williams: I am going to object to that as being indefinite. During that period, he says. We are covering a three- or four-year period.

The Court: I will sustain the objection upon the ground it is indefinite as to the period of time only.

Q. (By Mr. Fulwider): During the years 1948, 1949 and 1950.

Mr. Williams: If your Honor please, may I take the witness on voir dire for one question?

(Testimony of Joe Kerley.)

The Court: Yes.

Voir Dire Examination

Q. (By Mr. Williams): Mr. Kerley, do you understand counsel when he says received from Rohr as being distinguished from received from Mr. Gross? Is there a distinction in your mind between Mr. Gross and Rohr? When you say yes from Rohr, do you mean yes from Mr. Gross, or was there some official communication from Rohr Aircraft? [376]

A. I construe it to mean they would be from Rohr Aircraft through Mr. Gross.

Q. These questions have been asked you, did you ever receive any requests from Rohr Aircraft that were not signed by Mr. Gross?

A. There could have been. I would say most of them were possibly signed.

Q. By Mr. Gross? A. Mr. Gross.

The Court: There is no question of that here.

Mr. Williams: The requests apparently all came from Mr. Gross.

The Court: Mr. Gross wasn't operating an independent business. As far as I know, he didn't have anything else to do.

Mr. Williams: I think it is material to this matter that a distinction be made, your Honor, and I think it should be kept clear in mind.

Mr. Miller: We don't know about this theory on the trade secrets yet. We don't know whether Mr. Gross is being accused of having stolen some

(Testimony of Joe Kerley.)

trade secrets from Rohr and transmitted them to Mr. Kerley and Rubber Teck or Green and Kyle or Green Rubber and Machine Works, or whether he voluntarily supplied all the information here, if it is a question of stealing and transmitting.

The Court: As far as I am concerned, unless you can show something to the contrary, I am going to assume Mr. Gross was working for Rohr, and whatever Mr. Gross did, he did it for Rohr. He didn't do it as an individual. He did it for Rohr.

Mr. Miller: If we will assume that, that's all right. That will eliminate this stealing by Gross.

Mr. Fulwider: That has been the basis for all the questions asked, that all of the actions taken by Mr. Gross in connection with the Lock-O-Seal were taken as director of research for the Rohr Aircraft Company. That will continue to be the basis for the questions. Sometimes I refer to Gross specifically for clarity, but when I do, unless I mention otherwise, it will be as a representative of Rohr.

Mr. Miller: Then can we eliminate that now? You do not contend that Gross stole some of the trade secrets or information of Rohr and transmitted them and that the defendants are now using the stolen secrets.

Mr. Fulwider: Why, of course not.

Mr. Miller: All right.

Mr. Fulwider: We have never had any such contention or idea.

Mr. Miller: I just wanted to have that elim-

(Testimony of Joe Kerley.)

inated. We don't have to worry about that any more.

Mr. Fulwider: I didn't know you were worrying about [378] it.

Mr. Miller: We don't know all your contentions on this trade thing.

* * * * *

Direct Examination—(Resumed) * * * * *

Mr. Williams: I made the objection that it was too indefinite as to the period.

The Court: Overruled.

Q. (By Mr. Fulwider): Do you understand the question, Mr. Kerley? A. Yes, sir.

Q. Would you answer it, please?

A. Yes, we received some data sheets on different sizes. I wouldn't say that they were definite—I would say there could be some changes or would be some changes made later.

Q. Now I call your attention to Exhibit 1, which bears the name of Rohr Aircraft Corporation at the top and the notation "Report No. 347-D." Is that typical, Mr. Kerley, of the [379] data sheets, and you note it does include a little sketch at the top, that you received from time to time from Rohr during the period prior to the date of this report which I think is in 1949? What is the date of it? Yes, May, 1949.

Mr. Miller: I am going to object to the question as being typical. As far as I know, that is the only data sheet.

The Court: Overruled.

The Witness: Well——

(Testimony of Joe Kerley.)

The Court: You can answer that yes or no and then explain your answer.

The Witness: No.

Q. (By Mr. Fulwider): The answer is what?

A. The answer was no. Now may I explain the answer?

The Court: Yes.

The Witness: I would say that there would be some typical of this. Then there would be others that didn't show near as many sizes or might call out specific dimensions subject to a change of the dimensions if the manufacturer thought it should be changed for manufacturing purposes or for better seals or to better meet the requirements of the people that were buying the parts.

Q. (By Mr. Fulwider): As I understand, your answer is no because there were other sheets that had less sizes and differently gotten up than this Exhibit 1? [380]

A. Now, what I meant by that——

Mr. Williams: I think the witness answered the question, counsel.

The Court: Just a minute. He is explaining. Go ahead. What was it you meant by that? Go ahead.

The Witness: If I understand typical right, I would construe that to mean all data sheets were the same sheet. Am I right there?

Q. (By Mr. Fulwider): I did not mean typical to mean all the data sheets you obtained were like this. Let me ask you this way. You did obtain

(Testimony of Joe Kerley.)

other data sheets similar to this Exhibit 1, did you not, prior to May, 1949, the date of Exhibit 1?

A. Yes. There might be sketches of one size, two, three sizes.

Q. And these documents you were speaking of a minute ago were received by you—when I say you, I mean Rubber Teck—from either Rohr Company or the Wolfe Company in 1948 and 1949, were they not?

A. Yes. They might come from either company.

Q. Now, with respect to Exhibit 1, we have a letter, Exhibit 2, dated June 1, 1949, addressed to Rubber Teck, Attention Mr. Joe Kerley, from the Franklin C. Wolfe Company, and stating in part:

"I am enclosing a copy of Rohr Report No. 347-D, [381] the latest 200 series Lock-O-Seal specifications."

That refers to this Exhibit 1, does it not, 347-D?

A. Where is that?

Q. (Indicating.) A. Yes.

Q. In other words, Exhibit 2 is the letter of transmittal for Exhibit 1. Will you look at it?

A. Well, he refers to this as a report. I would refer to it as a data sheet.

Q. I would, too, although it does carry a notation at the top, "Report No."

A. Yes, it does.

Q. It is sort of written on report paper, I take it? A. Yes, sir.

Q. I notice that Exhibit 2 mentions or makes

(Testimony of Joe Kerley.)

this statement, "This is as a result of a further experimental work that Bert Gross has been doing in connection with facilitating the production of retainers, etc."

I take it you were familiar with that experimental work mentioned by Mr. Wolfe in this letter, were you not?

A. You are speaking of retainers there. Do you mean the metal washer?

Q. Yes, the Lock-O-Seal as a whole.

Mr. Williams: May I take the witness on voir dire again, please? [382]

The Court: All right.

Voir Dire Examination

Q. (By Mr. Williams): Mr. Kerley, do you have an independent recollection of ever having received that particular letter?

A. Well, I am assuming I received it. I have no definite recollection.

Q. You have no definite recollection of having received the letter or having read it before?

A. No, sir.

Q. I call your attention to Exhibit No. 1, which you referred to as a data sheet. Do you have any independent recollection of ever having seen the original of that data sheet before?

A. No definite recollection, no, sir.

Direct Examination—(Resumed)

Q. (By Mr. Fulwider): Now, Mr. Kerley, you

(Testimony of Joe Kerley.)

remember you had your deposition taken in this case on Tuesday, May 29, 1956, at our office?

A. Yes, sir.

Q. I will show you the deposition so you will have it.

Mr. Miller: What page is it? [383]

Mr. Fulwider: Page 47.

Q. If you will turn to page 47, please, commencing at line 14:

"Q. (By Mr. Lee): Referring now to Plaintiffs' Exhibit No. 1 and Plaintiffs' Exhibit No. 2, have you looked at those, Mr. Kerley?

"A. Yes.

"Q. Do you recall seeing Plaintiff's Exhibit 2 before you, Mr. Kerley?

"A. I would say yes.

"Q. You received a copy of that letter?

"A. Yes."

Did you so testify in the deposition?

Mr. Miller: I will stipulate that he did and the witness is perfectly willing to assume he received these now, as I understand the deposition.

Mr. Fulwider: That was my understanding a little earlier.

Will you stipulate he did receive Exhibits 1 and 2 as he testified in his deposition?

Mr. Miller: He says he merely has no definite recollection, but he assumes he did receive them.

Q. (By Mr. Fulwider): Then there is the further question on page 47 of the deposition:

"Did you receive a copy of Exhibit 1 that day?

(Testimony of Joe Kerley.)

"A. I wouldn't say whether it was with it or not, but I have seen it before."

Did you so testify? A. Yes, sir.

Mr. Miller: I will stipulate that he did.

Q. (By Mr. Fulwider): Now, did you receive other data sheets from either the Rohr Company or the Wolfe Company subsequent to receiving this Exhibit No. 1?

A. Yes. I am reasonably sure that we did.

Q. During the period 1947, or from the middle of 1947, say, 1948, 1949 and 1950, there were also changes in the specifications of the rubber, were there not, for the Lock-O-Seals?

A. Yes. There was changes in the material. There was quite a number of times when there was experimental work on different batches of material to try to improve it. [385]

* * * * *

Q. During that period from 1947 through 1950 in connection with the development work that was being done by the Rohr Company and the manufacturing of Lock-O-Seals by Rubber Teck, you had numerous meetings and conversations with Mr. Gross, did you not?

A. I wouldn't say numerous. There was quite a few.

Q. Approximately how often would you say that you met with Mr. Gross during the year 1947, approximately? When I say 1947, that is actually the last half of 1947.

A. The last half of 1947?

(Testimony of Joe Kerley.)

Mr. Williams: What is the question, counsel?

Mr. Fulwider: Make it the second half of 1947.

The Witness: You want to know how often or how many times?

Q. (By Mr. Fulwider): Well, either way, whichever is easier for you to say, about every so often or so many times in a year. It comes out the same.

A. I will say an average of every six weeks to two months.

Q. Would that be the same in 1948?

A. I would judge about the same.

Q. 1949?

A. I believe around 1949 to 1950 it seems as if the frequency of these discussions dropped off to some extent.

Q. Approximately how often would you say you had occasion to meet with Mr. Gross during the years 1949 and 1950?

A. If I remember right, in 1949 and 1950, it could have been a period of two to four months in there at times.

Q. Did you ever talk to him——

A. I am speaking of personal discussion.

Q. Yes. Did you ever talk to him on the telephone in between the personal meetings?

A. There could have been some telephone conversations in there.

Q. As a matter of fact, you probably did talk to him. A. I probably did.

Q. How about the years 1951, 1952 and 1953?

(Testimony of Joe Kerley.)

You continued to see Mr. Gross from time to time, did you not?

A. Yes, but maybe not quite as often. I can explain that, if you like.

Q. All right.

A. Along in that time most of Mr. Gross' work would have [387] been done with the Wolfe Company. He probably had more cause to contact the Wolfe Company than he did Rubber Teck direct, maybe.

* * * * *

Q. (By Mr. Fulwider): I call your attention, Mr. Kerley, [388] to Plaintiffs' Exhibit 17, which is entitled "Manufacturing and License Agreement," dated 29 November, 1948, but is unsigned. Do you have the original of that?

A. No, sir. That is, if I do, I can't find it.

* * * * *

The Court: May I ask a question?

Mr. Fulwider: Yes.

The Court: Did you ever see a contract that was signed? Did you ever see a copy of that contract that was signed?

The Witness: Yes, sir, I have seen this contract or a copy of it.

The Court: And it was signed by the parties, was it?

The Witness: Your Honor, I just can't remember. I have been trying to think. I just can't remember whether this contract was signed or not.

Mr. Miller: I don't think there will be very

(Testimony of Joe Kerley.)

much of a serious dispute about it, whether it was signed or unsigned. Apparently the parties for a period of time worked as if that contract was signed and assigned to Rubber Teck, or at least Rubber Teck was operating as if it were in effect, [389] or a gentlemen's agreement, or something of that character. So I don't think there will be very much of a dispute on the signing or unsigning of that.

The Court: May I see it?

The Witness: Yes, sir.

Mr. Fulwider: I might say Mr. Miller's statement is substantially in accordance with my understanding. Perhaps we might put it in the form of a stipulation. We can stipulate to it and avoid some of the questions I was going to ask.

Mr. Miller: Those are the facts, as I understand it, as I stated.

Mr. Fulwider: That is my understanding.

Mr. Williams: We will stipulate that the terms and provisions of the unsigned—at least we assume it is an unsigned contract, which you have before you, were abided by Rubber Teck and by Wolfe in the subsequent manufacture of this product by Rubber Teck. [390]

* * * * *

Q. (By Mr. Fulwider): You were aware of the fact that Franklin C. Wolfe Company took over the sale of the Lock-O-Seals, were you not?

A. From Rohr Aircraft?

Q. Yes. A. Yes.

(Testimony of Joe Kerley.)

Q. That is, Franklin C. Wolfe sold the Lock-O-Seals that first Green Rubber and then Rubber Teck manufactured? A. I believe that's right.

Q. Can you tell me from your own knowledge about when that was?

A. You mean when they first took over sales?

Q. Yes.

A. No, sir, I couldn't tell you. I couldn't give you a date on that at all. They may have sold, I don't say they didn't, while Industrial Specialties was still in the picture, but I don't have too much recollection of that. [392]

* * * * *

The Court: No. Let me ask a question. Let me see if I understand this. Exhibit 17 is an agreement between Wolfe Company and Kerley. I understand that either the agreement was assigned to Rubber Teck or Rubber Teck acted as if it had an assignment of this agreement and operated under this agreement for a certain length of time.

Mr. Miller: That's right.

The Court: For how long a period was that, do you know?

Mr. Miller: Until it broke off in——

Mr. Fulwider: 1954, I believe.

Mr. Williams: Why don't you ask the witness the question.

Mr. Miller: It was until several years after 1950. The exact date, I don't know.

The Court: Do you remember how long Rubber Teck acted under this agreement?

(Testimony of Joe Kerley.)

The Witness: Yes, sir. It was from the time it was made until—I know it took in 1953. Actually, we were not manufacturing too many, if any, in 1954, just before I left there, just before I left Rubber Teck.

Q. (By Mr. Fulwider): At least through 1953.

The Court: Now, do you know of your own knowledge the reason why Rubber Teck discontinued operating under this [393] agreement?

The Witness: Well, I have no proof of it, your Honor, but——

The Court: I don't want you to speculate. I said do you know the reason why they ceased to operate under this agreement? Do you know when they ceased to operate under the agreement? You say 1953 or sometime early in 1954?

The Witness: 1954.

The Court: Were you connected with Rubber Teck when they ceased to operate under the agreement?

The Witness: Yes, but I don't remember the exact date when they ceased to operate under it.

The Court: All right, but you were connected with Rubber Teck.

The Witness: Yes, sir.

The Court: Were you on the board of directors then?

The Witness: Yes.

The Court: Why did they cease to operate then? As a member of the board of directors, you can tell me.

(Testimony of Joe Kerley.)

The Witness: I can only tell you what my assumption is on it, that we just didn't get any more orders. They kept cutting the orders down with us and gradually taking over the full manufacture themselves.

The Court: Who took over the full manufacturing?

The Witness: Franklin C. Wolfe. [394]

The Court: May I inquire, did you get all your orders from Franklin C. Wolfe so that you didn't go out and solicit any work for yourself?

The Witness: As to the sale or manufacture of Lock-O-Seals?

The Court: Yes.

The Witness: No, sir. The only time we went out, I wouldn't call it soliciting, was when we might have to go out to help in the development of sizes or trouble that they might be having in one of the airplane factories.

The Court: Did I see somewhere in the agreement a provision that you were to only make these seals for Franklin C. Wolfe Company?

The Witness: I think you did, your Honor.

Mr. Fulwider: Yes, your Honor. It is on page 2.

The Court: Then you were to only make the seals for Franklin C. Wolfe Company.

The Witness: That's right.

The Court: And the reason you ceased to operate is because Franklin C. Wolfe Company didn't give you any orders, is that your impression of it?

(Testimony of Joe Kerley.)

The Witness: That is my strong impression.

Q. (By Mr. Fulwider): It is a fact, is it not, Mr. Kerley, that Rubber Teck was supplying all of the rubber rings for all of the Lock-O-Seals sold by Franklin C. Wolfe Company [395] up until after Rubber Teck came on the market with the Duo-Seal?

A. I don't believe that is quite right. We were supposed to under the agreement, the way I understood the agreement, but the Franklin C. Wolfe Company did make some of their own rings for Lock-O-Seals.

Q. For Lock-O-Seals. They were making their own Stat-O-Seals. Did that ever happen on more than one occasion when you got a terrifically large order from the government and you, Rubber Teck, and Wolfe each agreed that they would each supply part of the order? A. That's right.

Q. Was there ever any other instance that you know of where Wolfe Company made its own rings for the Lock-O-Seals it sold until after Rubber Teck had come on the market with the Duo-Seal?

A. I have reasons to believe they did.

Q. But you don't know?

A. I couldn't swear to it.

The Court: May I inquire from the witness, when did you start to make the first Duo-Seals? Do you remember the date you started to make the Duo-Seals?

Mr. Williams: Do you mean for production purposes or experimental purposes, or what?

(Testimony of Joe Kerley.)

The Court: We have got a company that is engaged [396] in the manufacturing of these seals. The witness says he ceased to make the seals, ceased to operate under the contract because he wasn't getting any orders. I assume when he started to make the other seals. When was that? Was it at the time they ceased to operate or before they ceased to operate?

Mr. Williams: He has asked the question. Mr. Kerley is an individual defendant here and he severed relations with Rubber Teck July 31, 1954. That is why I want this time, because there was a time when he wouldn't know.

The Court: I will restrict my question to prior to July, 1954. Do you know when Rubber Teck started to make its own seals?

The Witness: I would say either around the first of 1954, but not in production, your Honor.

The Court: What do you mean? Experimentation?

The Witness: Experimental parts, that is to the best of my knowledge.

The Court: Experimentation was in the early part of 1954?

The Witness: Yes, sir, to the best of my knowledge.

The Court: And when did production start?

The Witness: Your Honor, I can't tell you, because there was no production up until the time I left there in July, 1954. [397]

(Testimony of Joe Kerley.)

The Court: All right. It was after July, 1954, the production.

The Witness: Yes, sir, in any quantity to speak of at all.

The Court: All right.

Q. (By Mr. Fulwider): When you say there was no production until after you left, you mean that there were not very many sales.

A. That's right.

Q. That is, the volume of sales up until you left in July was relatively small.

A. Very small.

Q. Perhaps this will tend to fix this date somewhat. I show you Plaintiffs' Exhibit 11, being a letter dated November 20, 1953, addressed to Fletcher Aviation Corporation, and indicating that it was sent by George R. Aldridge, chief engineer of Rubber Teck, but unsigned.

Can you tell me whether or not that letter went to Fletcher?

A. No, sir. Again I would have to assume it.

Q. But you have seen the file copy of that letter in the Rubber Teck files, haven't you?

A. Let's say I have seen the contents similar to this. I couldn't say for sure whether I have seen this particular letter or not. [398]

Q. You saw a copy of a letter in the files of Rubber Teck that you recall was either this letter or one practically the same, is that what you are trying to say? A. Yes, I believe I have.

Q. Now, calling your attention to the fact that

(Testimony of Joe Kerley.)

the letter, Exhibit 20, states in the first line as follows——

Mr. Williams: Your Honor please, this is admitted in evidence.

Mr. Fulwider: It is just marked so far.

Mr. Williams: Just marked?

Mr. Fulwider: Yes.

Mr. Williams: Are you offering it in evidence? It has been identified.

Mr. Fulwider: I might as well at this time, I think, offer it in evidence. There is no question about it.

The Court: It may be received.

The Clerk: Exhibit 11.

(The document heretofore marked Plaintiffs' Exhibit 11 was received in evidence.)

[See page 744.]

Mr. Fulwider: I believe I forgot to offer Exhibit 2 in evidence, which I would like to offer at this time.

The Court: Exhibit 2 in evidence.

The Clerk: Exhibit 2.

(The document heretofore marked Plaintiffs' Exhibit 2 was received in evidence.)

[See page 742.]

Q. (By Mr. Fulwider): The first sentence of this letter, Exhibit 11, addressed to Fletcher Aviation, states:

"As you know from your conversation with Mr. Kerley, we are now in the position to offer Duo-Seals in the very near future."

(Testimony of Joe Kerley.)

Do you recall that you had some conversations with Mr. Paul Reischauer of Fletcher shortly before this letter, November 20th?

A. Yes, sir, I remember.

Q. How many conversations did you have?

A. You are referring to the conversations on Duo-Seals now?

Q. Yes, with Mr. Reischauer concerning Duo-Seals.

A. I don't remember. I know of one particularly and I am pretty sure there was two or three more.

Q. Did you ever have any conversations with Mr. Reischauer concerning one-piece Lock-O-Seals?

A. Not as a one-piece Lock-O-Seal brought out and specifically called one-piece Lock-O-Seal do I remember.

Q. Let's take the one conversation that you remember. Where was that conversation had?

A. At Fletcher Aviation.

Q. At Fletcher? A. That's right.

Q. Approximately when was that? [400]

A. Well, I would say in the latter part of 1953.

Q. This letter, Exhibit 11, is dated November 20, I believe. How long prior to that letter would you say you had this conversation with Mr. Reischauer that is referred to in the letter?

A. That would be hard for me to say, Mr. Fulwider. I just couldn't pin it down too close.

Q. I assume it would be a matter of weeks, is that correct?

(Testimony of Joe Kerley.)

Mr. Williams: If your Honor please, the witness has answered the best he can.

The Court: Sustained.

Q. (By Mr. Fulwider): Who was present at the conversation that you had with Mr. Reischauer prior to the letter, Exhibit 11, where you discussed Duo-Seals?

A. Well, as well as I remember, I don't remember anyone but Mr. Reischauer and myself.

Q. At the time you had that conversation with Mr. Reischauer, had the name "Duo-Seal" been chosen for this product that Rubber Teck was going to put out?

A. Had the name "Duo-Seal" been chosen?

Q. Yes.

A. No, sir, not to my knowledge.

Q. In other words, when you talked to Mr. Reischauer in the conversation referred to in Exhibit 11, the name "Duo-Seal" [401] had not yet been chosen by Rubber Teck to describe the product that you discussed with Mr. Reischauer?

A. At the time of this letter?

Q. Yes, or your conversation referred to in that letter.

A. I just can't answer that truthfully. I don't know.

Q. What in substance did you say to Mr. Reischauer and what did he say to you in this conversation we are discussing that you have testified about?

A. Well, what brought up the discussion, if I

(Testimony of Joe Kerley.)

might take it in a round-about way, was at that particular time they were using the two-piece Lock-O-Seal.

Q. That is, Fletcher was using the two-piece Lock-O-Seal?

A. Yes, sir, and there was an Army inspector stationed at Fletcher at that particular time. They were making parts for the Air Force.

Q. What year was this? Can you fix this at all as to the year, at least?

Mr. Williams: 1953, he said.

The Witness: Yes, prior to the time of this conversation or about the date of the conversation.

Q. (By Mr. Fulwider): The conversation, at least we know, was in 1953. A. Yes, sir.

Q. All right. [402]

A. And they had a little bit of a problem there where the seal had to go, getting it in place. The Army inspector had been complaining in a small way that they were dropping—as they dropped the seal, the rubber ring would come out of the metal container and possibly—the rubber ring would not get crossways, because it fits the bolt, but the retainer, being loose from the ring, might slide over to one side of the O.D. of the bolt and in torquing it would not cut the rubber ring, and Mr. Reischauer was very concerned over it, if I remember right. He wanted to know if it could be a one piece that would stay together for possibly a specific application or even on an ordinary

(Testimony of Joe Kerley.)

application, so there was no losing of one piece from the other.

Does that answer the question?

Q. Yes, partly. This conversation was in the latter part of 1953, I believe that is what you said. I wasn't exactly clear.

A. I believe I answered that by saying I couldn't pin it down to any certain date. I am reasonably sure it was in 1953, but it was before this letter, I am sure. It had to be before this letter.

Q. Was there more than one such conversation prior to the date of the letter, Exhibit 11, with Mr. Reischauer?

A. Well, I said, Mr. Fulwider, I knew possibly of one and there could have been two or three others. [403]

Q. This one you are testifying to is the substance of the first conversation you had with Reischauer on this problem?

A. As I say, one is all I remember.

Q. Yes.

A. Probably his idea or his request, or whatever you might want to call it, or wondering if one could be made that way.

Q. Did you take any steps following that conversation with Mr. Reischauer to make a one-piece seal?

A. Yes. I at that time contacted, I am pretty sure, Mr. Smith.

Mr. Williams: Identify Mr. Smith.

(Testimony of Joe Kerley.)

The Witness: Yes.

Mr. Williams: Identify Mr. Smith to his Honor.

The Witness: Mr. Smith is connected with Franklin C. Wolfe Company.

Q. (By Mr. Fulwider): Mr. Paul Smith?

A. Mr. Paul Smith.

Mr. Miller: Is he here in the courtroom?

The Witness: Yes, sir.

Mr. Miller: Will you point him out?

The Witness: Sitting to the right in the blue suit. If I remember correctly, the conversation we had at that time was to try, or I asked him if they wouldn't like to have a one-piece seal to satisfy the customers. We were all interested [404] in satisfying the customers and bettering business.

Mr. Smith told me at that time that a one-piece seal wouldn't work, that the two-piece Lock-O-Seal, as it was known then, was already advertised and on the market, and why jeopardize it with another item on the market? Maybe that is not the exact words, but words to that effect.

I understood he would turn it down flat, didn't want anything to do with it.

Q. (By Mr. Fulwider): Did Rubber Teck then take any steps pursuant to Mr. Reischauer's request to design a one-piece seal?

A. Not immediately, no, sir.

Q. Approximately when did Rubber Teck start design or development of its one-piece seal, which subsequently became Duo-Seal?

A. I would say several months later.

(Testimony of Joe Kerley.)

The Court: Several months later than this conversation with Mr. Smith?

The Witness: What I meant was several months later after talking to Mr. Reischauer, is the way I understood the question, your Honor.

The Court: Mr. Reischauer?

The Witness: Yes, sir. It could have been a shorter period than that.

Q. (By Mr. Fulwider): What was done by Rubber Teck to [405] develop the one-piece seal which became the Duo-Seal following this conversation with Reischauer?

A. Now we are getting out to where I stipulated one conversation and thought there could be several others. As I go back, I believe there was another one. I believe Mr. Reischauer asked again if we could get hold of some for a trial.

Q. Did you then submit some one-piece seals to Mr. Reischauer for trial or test?

A. Yes, sir, and at the time we submitted them, we told the Franklin C. Wolfe Company that we were submitting them because Mr. Reischauer had asked for them again.

Q. Were those submitted shortly before this letter, Exhibit 11?

A. Well, it must have been sometime before this letter, as well as I remember, because at the time, if I remember right, that they were submitted, we had no facilities, I am speaking of the time now of the conversation with Mr. Reischauer, we had no facilities.

(Testimony of Joe Kerley.)

Q. For what? A. For producing.

Mr. Williams: The one-piece seal?

The Witness: The one-piece.

Q. (By Mr. Fulwider): But as of the time of this letter, Exhibit 11, what had you done towards producing or being in a [406] position to produce one-piece seals?

A. To the best of my recollection, nothing, with the exception of maybe some experimental tooling.

Q. That is perhaps single-cavity molds to make up the seals that you sent over to Mr. Reischauer?

A. Yes. As I say, that is to the best of my recollection.

Q. Approximately when were these one-piece seals sent over to Mr. Reischauer for test or trial, having in mind the date of that letter, Exhibit 11?

A. Well, I would say, again it is vague, but I would say from two to three months, and possibly a little shorter time, possibly a little longer, than the date of this letter, before the date of this letter.

Q. Do you know who took the samples over to Fletcher, Mr. Reischauer of Fletcher Aviation, of the Rubber Teck one-piece seal?

A. Yes, sir. I am sure I took them myself.

The Court: May I see the letter?

The Witness: Yes, sir.

Q. (By Mr. Fulwider): Do you have any recollection as to about how many samples you took over to him at that time?

A. Very few, five or six or a dozen at the most.

(Testimony of Joe Kerley.)

Q. Did Fletcher Aviation run any tests on these samples that you took to them? [407]

A. I didn't see them run the test. I understand they did.

Q. Did they render to you a report or a letter concerning the results of these tests?

A. I don't believe they gave us a report or a letter. I did have conversation on it later with Mr. Reischauer.

Q. Approximately when was that conversation?

A. Well, I stated it could have been two or three months, a little less or a little more, before the date of this letter, and the conversation would have been a very few days after the testing was run.

Also, I might add that the reports of that test was transferred to the Franklin C. Wolfe Company.

Q. I couldn't hear that.

A. I might add that the results of that test, word of mouth, was also transferred to the Franklin C. Wolfe Company.

Q. To whom in the Franklin C. Wolfe Company did you transmit the results of the Reischauer tests?

A. Well, again, I am sure it was Mr. Paul Smith. Most of the conversation of that style or nature was carried on with Mr. Smith.

Q. You had, I take it, frequent conversations with Mr. Smith during that period of time, 1950, 1951, 1952, 1953?

(Testimony of Joe Kerley.)

A. There was a considerable amount of cooperation between the two companies. [408]

Q. Can you tell me how these one-piece seals that were delivered to Mr. Reischauer were constructed?

A. I can give it to you in a general way, Mr. Fulwider. It is bonded to the—the rubber seal is bonded to the metal retainer.

Q. Can you tell me the shape of the internal periphery of the metal washer in those samples? In other words, was it a flat inside face as in the Duo-Seal today, or was it different from today's Duo-Seal?

A. You mean the i.d. of the washer?

Q. Yes. A. Of the metal washer?

Q. Yes. A. It would be a flat face.

Q. So that the sample you took to Mr. Reischauer prior to this letter of November 20th were made exactly like the Duo-Seals today?

A. I can't answer that truthfully, sir. I would just be assuming.

Q. Let me modify the question. Were the Duo-Seals that were being made by Rubber Teck at the time you left Rubber Teck constructed in the same way, that is, were they identical with the Duo-Seals which you took over to Mr. Reischauer for test?

A. I wouldn't swear to the fact that they were identical. [409] Our tooling man could tell you more about that than I could, because he would have closer contact to it.

(Testimony of Joe Kerley.)

Q. But at least they were identical, as far as the i.d. of the washer went?

A. The i.d. of the metal washer?

Q. Yes.

A. No. Mr. Fulwider, they could have been—I don't say it was, but it could have been changed.

Q. In other words, you are not certain, then, as to the i.d. of the washer in the one-piece seals you took to Mr. Reischauer?

A. No. When you first put out a sample part, although it seems to work perfect, there might be a few changes to be made in it that the tooling man could see where he could make the tooling better or a little different configuration. I don't say it was. I say it could be.

Q. The tooling for these seals was made by Mr. Grass, I take it? A. Yes, sir.

Q. Otto Grass? A. Yes, sir.

The Court: The O rings that you used in these samples, were they the same as the O rings that were used when you made the seals for Wolfe & Company?

The Witness: No, sir. [410]

The Court: What was the difference?

The Witness: It was not an O ring, your Honor, as you construe an O ring here, that is, as I construe an O ring, pardon me, because when this part is molded, your rubber goes more in a mass. It is formed into the metal container and the cavity of your mold is what forms the rubber into the retainer.

(Testimony of Joe Kerley.)

The Court: But in this letter of November 20, 1953, which is Exhibit 11, you say that, "We are also enclosing six copies of price list of various types of O rings which can be supplied by Rubber Teck for your production usage."

The Witness: Yes, sir, but you see——

The Court: Is that the same kind of an O ring you had been using in the making of the seal for the Wolfe Company?

The Witness: Well, your Honor, we supplied Fletcher with a lot of O rings that were used in Lock-O-Seals.

The Court: You did?

The Witness: Yes, sir.

The Court: Then this doesn't offer to them O rings used in this seal of yours.

The Witness: No, sir. We wouldn't have been quoting Fletcher prices on O rings used in Lock-O-Seals.

The Court: What was the difference between the rings that you used in the one-piece seal and the rings that [411] were used in the two-piece seal? Was there any difference at all?

The Witness: Your Honor, I am sorry, but I don't believe I quite get you.

The Court: Let's assume that before the O ring was bonded to the metal washer——

The Witness: Yes, sir.

The Court: ——was that exactly the same sort of an O ring that was used in the seal as manufactured by Wolfe & Company?

(Testimony of Joe Kerley.)

The Witness: I must be awfully dumb or something, but I can't get the connection.

Mr. Miller: If you are trying to test this out with the witness, your question is confusing.

The Court: It may be that I am confused.

The Witness: I will be glad to answer if I can understand the question.

The Court: Let me see the plaintiffs' O ring, the plaintiffs' seal. Now, while you were making seals for Wolfe & Company, you used an O ring similar to the O ring in 81, didn't you?

The Witness: Yes, sir.

The Court: When you commenced to bind or to cement or to fuse, whatever you did, the O ring to the metal washer, did you use this same kind of an O ring? [412]

The Witness: No.

The Court: You designed a new O ring, did you?

The Witness: We designed—I wouldn't exactly call it an O ring, your Honor.

The Court: You designed a new rubber ring?

The Witness: That's right, and in the process of manufacturing what we call the Duo-Seal—is that what you are getting at?

The Court: Yes.

The Witness: Your ring is deformed within itself in the mold and it will not come out of there.

The Court: Then you didn't take, you just didn't take one of the O rings you had used in manufacturing the seal for Wolfe & Company and try to attach it to the metal washer, did you?

(Testimony of Joe Kerley.)

The Witness: No, sir. Now, if we are speaking of the ones delivered to Mr. Reischauer of Fletcher Aviation——

The Court: That is what I am speaking of.

The Witness: No, sir, we did not.

The Court: You designed a new inner rubber ring, is that right?

The Witness: Yes. It was designed and it would not come out in the finished product in a completely round section.

The Court: How did it differ from the O ring that was used? [413]

The Witness: May I borrow a pencil there?

The Court: Yes. Go over to the blackboard so everybody can see it.

Mr. Miller: May I straighten out this?

The Court: Yes.

Mr. Miller: You are under the impression——

The Court: I am not under an impression. I am trying to find out what happened.

Mr. Miller: You are asking the witness whether in making the original ring they took a rubber ring, such as the rubber ring you have in Exhibit 81, and put it in a metal container and sealed it with cement or something like that.

The Court: Yes, sir.

Mr. Miller: That isn't the way it was made.

The Witness: We did not.

Mr. Miller: I am trying to help here. That is what has upset the witness. The way the Duo-Seal is made is that you put a metal retainer in a

(Testimony of Joe Kerley.)

mold. That metal retainer only occupies a portion of the mold cavity. Then you fill that mold with rubber. The rubber is shaped by the mold cavity against the interior of the metal retainer and is bonded to it.

The Court: Let me ask the witness a question. I am sorry, but I can't take your statement as evidence.

Mr. Miller: I am trying to clarify it. [414]

The Court: Do I understand when you made these one-piece seals for Fletcher that the inner rubber ring was made inside of the metal ring? You didn't take a rubber ring and then put it in the metal ring.

The Witness: No, sir.

The Court: But you made the rubber ring inside the metal ring.

The Witness: Inside the metal ring at the same time it is bonded. It goes in in a mass and comes out as a form known as the Duo-Seal.

The Court: That is what I am trying to find out.

The Witness: I am sorry that I was a little dumb.

The Court: No. Maybe I was.

Mr. Fulwider: I would like to mention this one exhibit before we break for lunch.

The Court: All right.

Q. (By Mr. Fulwider): Exhibit 10, which is headed "Duo-Seals by Rubber Teck, Data Sheet 1102-D," dated December 18, 1953, Mr. Kerley, that

(Testimony of Joe Kerley.)

is a Rubber Teck data sheet prepared for Duo-Seals, is it not?

A. Yes, sir, I believe it is.

Q. And will you read this notation here in the upper right-hand part as to what it says on the sheet? Read it out loud.

A. The Duo-Seal is a one-piece washer and O ring combination [415] of the O ring permanently bonded to the washer.

Q. I believe there is a legend on the drawing, a little sketch, notation of the ring with an arrow pointing to the rubber ring, is that correct?

A. That's right.

Q. Was that data sheet put out to the trade at about the date it bears?

A. I have no reason to believe it was not, sir.

Q. It is a Rubber Teck data sheet?

A. Yes, sir.

Mr. Fulwider: We would like to offer that in evidence as Exhibit 10.

The Court: It may be received in evidence. What is the number?

The Clerk: Exhibit 10.

(The document heretofore marked Plaintiffs' Exhibit 10 was received in evidence.)

[See Book of Exhibits.] [416]

* * * * *

Mr. Fulwider: In connection with some of these matters we were discussing this morning, I think this would be an appropriate time to read a few of the interrogatories and answers thereto in the rec-

ord that go to these matters of dates and facts. I would like to read Interrogatories 18 and 19, which were answered together. 18 reads as follows:

"Is it the position of the defendants or any of them that the Franklin C. Wolfe Company ever manufactured any rubber parts for the product Lock-O-Seal without the consent of Rubber Teck, Inc. prior to the time that the Duo-Seal product was placed on the market by Rubber Teck?"

19 says:

"If the answer to Interrogatory 18 is in the affirmative, state with particularity when such rubber parts were produced by the Franklin C. Wolfe Company, identify any evidence that the defendants have to support this fact, and state whether or not any discussions were had with any personnel of Franklin C. Wolfe Company concerning such rubber parts."

The answer is:

"It is quite probable that Kerley consented to [424] Franklin C. Wolfe Company making rubber parts for the Lock-O-Seals for one large order."

Now, on the matter of when Rubber Teck ceased making parts for Wolfe Company, we have three interrogatories at the end.

"42. State when the development work commenced on the first Duo-Seals as shown in the sketch, Plaintiffs' Exhibit 16, made by Otto R. Grass in his deposition.

"A. Two or three weeks before the letter sent to Fletcher Aviation.

"Interrogatory 43: State when the first models

of the device illustrated in Plaintiffs' Exhibit 16 to the deposition of Otto R. Grass were completed.

"A. Two or three weeks before the letter sent to Fletcher Aviation."

That is Exhibit 11 here, I believe.

"Interrogatory 44: State in detail what documentary evidence the defendants have to support the dates alleged in answer to Interrogatories 42 and 43, and state the substance thereof or attach copies to the answer.

"A. There are none."

Then there is one more interrogatory.

"No. 7: When did Rubber Teck, Inc. discontinue [425] the manufacturing of rubber parts for Lock-O-Seals as evidenced by the records referred to on page 39, line 25, of the deposition of Paul A. Karres?

"A. Approximately April 16, 1954."

I offer those at this time as admissions on behalf of the defendants. They were signed by Mr. Karres, I believe, on behalf of all defendants.

The Court: They may be received.

JOE KERLEY

called as a witness on behalf of the plaintiffs, having been previously duly sworn, resumed the stand and testified further as follows:

Direct Examination—(Continued)

Q. (By Mr. Fulwider): Now, Mr. Kerley, during the entire period which Rubber Teck was manufacturing Lock-O-Seals for the Wolfe Company, the Rohr Company, Mr. Gross for the Rohr Com-

(Testimony of Joe Kerley.)

pany, made tests from time to time and issued reports thereof, did he not? A. Yes, sir.

Q. And I believe you saw various of these reports, did you? A. Yes. [426]

Q. Calling your attention to Exhibit 6 and Exhibit 18, I call your attention first to Exhibit 6, which purports to be a letter from Mr. Gross of Rohr to you at Rubber Teck. Will you just read that, please, and then take a look at Exhibit 18?

Did you receive that letter, Exhibit 6?

A. Yes, I did.

Q. The report, Exhibit 18, I believe was enclosed with the letter, Exhibit 6. You have seen that report, have you not?

A. Yes, sir, I have seen that.

Q. Do you recall discussing that report or the contents of it with Mr. Gross at Rohr?

A. I don't — I could have, but I don't recall doing so.

Q. You are familiar with the various tests that are reported in Exhibit 18, are you not?

A. You mean would I know how to run them myself?

Q. You know what they mean, what that part of the report is describing and referring to?

A. Yes, I could read it over and tell you what tests they went through.

Q. That is, you know how the aging tests are conducted? A. Yes, sir.

Q. And the fuel resistance test?

A. Yes, sir.

(Testimony of Joe Kerley.)

Q. And the tensile strength test? [427]

A. Yes.

Q. The tear and hardness test? A. Yes.

Q. The same with their specific gravity test?

A. Yes.

Q. And temperature, flexibility? A. Yes.

Q. Resilience test? A. Yes.

Q. Firm and set test? A. Yes, sir.

Q. I believe those are all of the tests that that report indicates were done by Rohr. I think that report pertains to rubber denominated RT-1007 in the use of Lock-O-Seals, does it not?

A. Yes, it refers to RT-1007.

Q. Did you know about most of the reports Mr. Gross prepared on Lock-O-Seals and components thereof?

A. I don't think I would know of most of them. I believe a lot of them would have been distributed to other companies besides our own.

Q. But they found their way to Rubber Teck eventually, didn't they?

A. I wouldn't say that, sir, not the ones distributed to someone else besides our company. They wouldn't have found [428] their way there.

Q. Is it a fair statement to say you knew the more important tests made by Rohr Company?

Mr. Miller: Your Honor, I don't see how he could answer that. What are the more important ones?

The Court: Sustained.

Q. (By Mr. Fulwider): Let me ask you the

(Testimony of Joe Kerley.)

question this way. Exhibit 18 is typical of other reports received by you or seen by you which originated with Rohr, is it not?

Mr. Miller: I am going to object to the question as too indefinite. Typical of other reports?

Mr. Fulwider: I would like to save going down the list.

Mr. Miller: The excuse of saving time, I don't believe is a valid one here at all. If there are some reports he is supposed to have seen, we would like to see them, too, but this general blanket question as to the typical reports of which we have no knowledge, I don't believe the witness should be called upon to answer.

The Court: Overruled. You may answer.

Q. (By Mr. Fulwider): Answer the question.

A. I would like for you to put it to me once more.

The Court: Read the question.

(Question read.)

The Witness: We did receive other reports. I [429] wouldn't say exactly like this one.

Q. (By Mr. Fulwider): But generally similar, I mean covering various tests. A. No. [430]

* * * * *

Q. (By Mr. Fulwider): I call your attention to page 69 of your deposition, commencing at line 23:

"Q. Wasn't it your general policy to discuss all the tests with Mr. Gross and people of the Wolfe Company, the results of the tests?

(Testimony of Joe Kerley.)

"A. There were some tests that we did not discuss, but the more important ones, I would say we would. I wouldn't say all the tests were discussed."

Mr. Williams: Finish the reading.

Mr. Fulwider: "To any extent."

Q. Did you so testify, Mr. Kerley?

A. I would answer that the way I did in my deposition.

Mr. Miller: I will stipulate he did.

Q. (By Mr. Fulwider): And were those statements that you made at the deposition correct?

A. To the best of my recollection, yes.

Mr. Fulwider: Now, may I have Exhibit 20?

Q. Do you recognize this report, Exhibit 20? You have seen that before, have you not?

A. I am not too sure. Could I take a little more time here? I believe I have. It isn't too familiar with me, though.

Q. Do you recall having discussed with Mr. Gross and with personnel of Wolfe Company this report?

A. No, I don't believe I recall this particular report. [431] For one thing, channel sealing was nothing we had anything whatever to do with, which you do mention it in this report.

Q. I call your attention to page 70 of your deposition, line 22:

"Q. (By Mr. Lee): Referring to Exhibit 20, Mr. Kerley, do you recall ever seeing that before?

"A. Yes, I have seen that.

(Testimony of Joe Kerley.)

"Q. And did you discuss it with Mr. Gross and people at the Wolfe Company?

"A. Yes, part of it had nothing to do with Lock-O-Seal.

"Q. But you did discuss it? "A. Yes."

Did you so testify?

A. Yes, I did.

Q. Was that statement that you made in the deposition which I have just read correct?

A. Well, I believe it is. I have seen quite a few reports. It is hard to pin it right down to one report and make sure I have looked it over and discussed it.

Q. Will you take a look at Exhibit 3, which is a group of reports? I believe you are familiar with those reports, aren't you?

A. Yes, sir, I am familiar with this type of report, but I am not familiar with Wolfe Company's compound RT-213, because [432] that was a Rubber Teck compound.

Q. You say it was or was not?

A. It was a Rubber Teck compound.

Q. You say you are not familiar — I missed a point somehow. May I have that answer?

(Answer read.)

Q. You mean it was a compound used by Rubber Teck in making Lock-O-Seals?

A. No, sir, not necessarily. There might have been some made out of it, but it was a compound we used in other items, too, if I remember right.

(Testimony of Joe Kerley.)

Q. Those reports in Exhibit 3 are all Rohr Company reports, aren't they?

A. Yes, sir, I believe so. I haven't got down to the bottom yet, but I would say they were.

Q. I believe most of them do not pertain to Lock-O-Seals, do they?

A. I don't believe most of them do. I would have to take a little time to study them to make a definite answer.

Q. Put it this way. Those reports that do not pertain to Lock-O-Seals are reports of tests run by Rohr for Rubber Teck.

A. Could I have that again, please?

Mr. Fulwider: Read the question.

(Question read.) [433]

The Witness: Yes, sir.

Q. (By Mr. Fulwider): And those are run at your request, I assume?

A. They could have been run at Rubber Teck's request, or there was a time when Mr. Gross would call, he might want a certain size of ring run, if we had that particular mold, for a test that he wanted for his own satisfaction at Rohr Aircraft's lab.

Q. Referring to Exhibit 13, do you recall this letter, Exhibit 13, which is written on Wright Air Development Center Station stationery, directed to Rubber Teck Sales and Service?

Mr. Miller: What is the date of the letter?

Mr. Fulwider: What is it?

The Witness: March 11, 1954.

Q. (By Mr. Fulwider): I call your attention

(Testimony of Joe Kerley.)

to Exhibits 4 and 5, which are reports from Rohr Aircraft Company. Exhibit 4 is dated 3-13-52 and Exhibit 5 is dated 3-17-53. Will you look at the numbers of these two reports, Exhibits 4 and 5, and tell me whether or not those reports are mentioned in this letter, Exhibit 13, from Wright Air Development?

A. I fail to make the connection between the numbers here and the reports, unless I am overlooking some place. The letter calls out the report numbers. Is this report called? If it is, I haven't found it. [434]

Q. Exhibit 5 is MP-192. That is one of those mentioned in the letter, Exhibit 13, is it not?

A. Yes, they have a 192 mentioned.

Q. I am sorry I misled you. I meant to refer to Report MP-182, which is a part of Exhibit 3, dated 1/29/53. That is No. 182, is it not?

A. I don't know what specifications they are calling out here. Well, in the letter they call out a 152, but I can't say whether that is referring to this exact report or not. I can't tell you that.

Q. Don't you recall sending to Wright Field the reports mentioned in that letter, 182, 192 and 192-1?

A. I am sure we sent some reports to Wright Field, but I couldn't swear to the numbers on them or recall exactly what it would be. It could be.

Q. You did send, however, three Rohr lab reports to Wright Field, as stated in the letter, Exhibit 13?

(Testimony of Joe Kerley.)

A. Well, now, if you ask me to swear to that, I couldn't do it. I would say we possibly did, but I couldn't pin it down that close.

Q. Is that letter, Exhibit 13, an approval by Wright Field?

Mr. Miller: I think the letter speaks for itself. Object to the question on that ground. Calls for a conclusion of this witness. The letter is in evidence and it speaks for [435] itself.

The Court: I am sorry. Read the question.

(Question read.)

The Court: Sustained. The letter speaks for itself, doesn't it, rather than asking for a conclusion of this witness?

Mr. Fulwider: I will offer Exhibit 13, being the letter from Wright Airfield in evidence.

The Court: It may be received in evidence.

The Clerk: Exhibit 13.

(The document heretofore marked Plaintiffs' Exhibit 13 was received in evidence.)

[See page 745.]

Q. (By Mr. Fulwider): Now, the rubber compound covered by the letter from Wright Field, Exhibit 13, was subsequently used by Rubber Teck in making Duo-Seals, was it not?

A. I believe so.

Q. When Rubber Teck first started manufacturing Lock-O-Seals for the Wolfe Company, they made both the rubber rings and the metal washers, is that correct? A. At the first.

(Testimony of Joe Kerley.)

Q. And then subsequently the metal washers, I believe, were made on the outside by Pacific Cut Washer Company. A. That's right.

Q. Were the dies that Rubber Teck had been using up to that time turned over to Pacific Cut to use in making [436] washers?

A. It seems to me that they were, but then I believe the Pacific Cut made, Pacific Cut Washer made some of their own dies, getting into higher production on compound dies, if I remember right.

Q. I am not sure that I asked you this morning about the data sheets in Exhibit 7. Exhibit 7 is a series of data sheets carrying the Franklin C. Wolfe Company legend. Do you recall receiving these data sheets or duplicate copies thereof at Rubber Teck?

A. I would assume we did, but I have no vivid recollection of it.

Q. You were familiar with data sheets such as Exhibit 7, were you not?

A. Is this Exhibit 7?

Q. Yes.

A. I wouldn't be too familiar with that, no, sir.

Q. You know, do you not, that the Wolfe Company did prepare data sheets for Lock-O-Seals?

A. Yes, they did.

Q. Do you know whether or not at Rubber Teck you had data sheets covering the sizes listed in the first page of this Exhibit 7?

A. We would have had data sheets of the sizes that wouldn't necessarily have been from the Franklin C. Wolfe [437] Company. I don't say we

(Testimony of Joe Kerley.)

didn't have any from Franklin C. Wolfe Company, but when we were making those rings, we had to have our own data sheets to make the metal parts.

Q. You say you had to have data sheets?

A. Yes, sir.

Q. Will you look at page 83 of your deposition, line 13:

"Q. (By Mr. Lee): Referring to Exhibit 7, Mr. Kerley, do you recall seeing any of those before?

"A. I am sure I did.

"Q. They were supplied to you by the Wolfe Company?

"A. Either the Wolfe Company or Rohr Aircraft.

"Q. One or the other? "A. Yes."

You did so testify?

A. Yes, sir. I didn't deny it here, either.

Q. Was that a correct statement?

A. Yes, sir.

Mr. Fulwider: I would like to offer Exhibit 7 in evidence.

The Court: It may be received in evidence.

The Clerk: Exhibit 7.

(The document heretofore marked Plaintiffs' Exhibit 7 was received in evidence.) [438]

[See Book of Exhibits.]

Q. (By Mr. Fulwider): Now, turning to the manufacturing of Duo-Seals by Rubber Teck, did you and Mr. Karres and Mr. Grass all agree that Rubber Teck should go into the manufacture of Duo-Seals?

(Testimony of Joe Kerley.)

A. Well, it must have been a joint agreement. We wasn't in the habit of doing something without the consent of others.

Q. There was no disagreement that you recall?

A. No, sir.

Q. Now, I am not sure whether I asked you this this morning. Am I correct in my understanding that the letter to Reischauer at Fletcher was the first offer to the trade of Duo-Seals?

A. I couldn't answer that truthfully. It could have been, but I can't say for sure.

Q. Would you say it was approximately the first, one of the first?

A. I would say it was along close to the first.

Q. Now, you are familiar with the product sold by the Wolfe Company as the Stat-O-Seal, are you not?

A. I know of it. I am not too familiar with it.

Q. You do recall that they manufacture a one-piece seal under the trade-mark "Stat-O-Seal"?

A. Yes, sir, and I have seen it.

Q. You have seen it? [439] A. Yes, sir.

Q. Now, Mr. Smith of the Wolfe Company requested you to submit to him an estimate on the manufacture of Stat-O-Seals, which were then called one-piece Lock-O-Seals, by Rubber Teck, did he not?

A. I am not sure whether he requested that direct of me or not. Possibly so. But it would have had to have gone through our channels there to have got an estimate on it, through Mr. Grass, our

(Testimony of Joe Kerley.)

tooling man, which would have been the most important one in it.

Q. You do remember, I take it, discussing with Paul Smith of Wolfe Company the manufacture of Stat-O-Seals?

Mr. Williams: If your Honor please, may we have this centered as to a point of time, this conversation he is referring to?

Mr. Fulwider: That is what I am going to ask next.

Mr. Williams: All right.

The Court: Overruled. If you are going to ask it in the next question, overruled. Can you answer the question?

The Witness: I will have to have it again.

The Court: Read the question.

(Question read.)

The Witness: Yes, I am sure I remember a conversation or two on that.

Q. (By Mr. Fulwider): Can you tell me when that was? [440]

A. No, sir. The only way I could get anywhere close to it would be it was sometime after the—if I remember right now, it was sometime after Mr. Reischauer had asked for a one-piece at Fletcher Aviation. I believe I am right on that.

Q. That would place it in 1953, then, as I understand it.

A. If the date on the inquiry on the one-piece was in 1953, I would say that was in 1953, sometime after.

(Testimony of Joe Kerley.)

Q. Do you remember where you had that conversation with Paul Smith?

A. Not exactly. I do know that there was a conversation or two on it at Rubber Teck's plant. I believe there were discussions on how to make the molds between Mr. Smith and Mr. Grass, if my recollection is not too bad.

Q. Were you present at that conference or conversation?

A. I think I was present. I don't believe I went into any discussion on it—it wouldn't have been my place too much to have—the one discussion on it.

Q. Do you recall anyone else who was present at that conversation?

A. Not at that particular one. There could have been. Mr. Karres could have been in on it, if it got down to serious business.

Q. You say the discussion, as you recall, was principally [441] on tooling up for the Stat-O-Seal?

A. Well, if I remember right, I wouldn't want to say—tooling is pretty broad, but I would say the best way to mold or make the Stat-O-Seal.

Q. Did Mr. Smith at that conversation show you a Stat-O-Seal or model of a Stat-O-Seal, sample of a Stat-O-Seal?

A. I don't hardly believe he did. I don't believe they had any at that time. If I understand this right, this was while the thing was in its—what do you call it—conception, or trying to get it figured out, or something, I believe.

(Testimony of Joe Kerley.)

Q. What did Mr. Smith say to you in that conversation, the substance of it as best you recall now?

A. Mr. Fulwider, as I said, it was not my place to go into too much discussion on tooling. I would hesitate to try to say what the conversation was. I believe someone else is more qualified that would be in on it than I am on that particular end of it.

Q. Do you recall that he asked you to give him an estimate on the manufacture by Rubber Teck of Stat-O-Seals for the Wolfe Company?

A. I believe that that was brought up in the conversation.

Q. Did you have any further conversation with personnel of the Wolfe Company concerning the possible manufacture by [442] Rubber Teck of Stat-O-Seals for the Wolfe Company?

A. There could have been, Mr. Fulwider, but it would have been more or less not done to a serious point, I don't believe, as far as prices and how to manufacture them, or anything like that.

Q. Do you remember whether or not Mr. Grass gave to you a figure or an estimate prepared by him on the cost of making molds such as Rubber Teck would use if it manufactured the Stat-O-Seal for Wolfe?

A. I don't think so. I don't believe Mr. Grass ever gave them to me. I don't know whether he went that far or not.

Q. Do you recall ever giving a price to anyone at the Wolfe Company, an estimate of what Rubber

(Testimony of Joe Kerley.)

Teck would charge to manufacture the Stat-O-Seals for the Wolfe Company?

A. No. If they were given a price by Rubber Teck, I don't remember.

Q. You don't remember that?

A. No, sir.

Q. Were you shown any drawings or sketches in this conversation you had with Mr. Smith concerning the possible manufacture of Stat-O-Seals by Rubber Teck?

A. There could have been. I don't recall them.

Q. Now, when Rubber Teck started manufacturing duo-Seals — let me ask you this way. Throughout 1953, up until [443] at least the close of 1953, as far as you know, Rubber Teck supplied the Wolfe Company's entire demands for rubber rings for the Lock-O-Seals except the one exception you mentioned this morning, that big order.

A. Well, I have no information or no proof otherwise.

Q. As far as you know, then, Rubber Teck continued to sell O rings for use in Lock-O-Seals after the November 20 letter to Mr. Reischauer, up into 1954, is that your recollection?

A. That Rubber Teck continued to sell O rings for Lock-O-Seals to Mr. Reischauer?

Q. Rubber rings. No, to Wolfe after the Reischauer letter.

A. I can't tell you just when that was discontinued. I can't tell you.

Q. After the Duo-Seals came on the market, did

(Testimony of Joe Kerley.)

you have a conversation with Mr. Hagmann of Wolfe Company concerning the Duo-Seals? Did he call on you and discuss your manufacture and sale of Duo-Seals?

A. After they were on the market?

Q. Yes.

A. There was a very few on the market. There was a conversation between myself and Mr. Hagmann on manufacturing of Duo-Seals. I am trying to remember whether there was two conversations and I am getting them mixed or not. I believe [444] the one conversation I do recall, Mr. Hagmann told us we were infringing on his patent rights.

Q. Do you remember where that conversation took place?

A. The one I am referring to I am pretty sure was at lunch one day.

Q. And did Mr. Hagmann tell you why he wanted you to stop making Duo-Seals?

A. Well, he figured, I suppose, we were infringing on their patent rights. He didn't want anything that would hurt their sale of Lock-O-Seals, I suppose.

Q. About how long did that conference last?

A. Oh, I would say maybe approximately an hour, through lunch.

Q. Was anyone else present?

A. Not that time. I am a little mixed up between the two conversations.

Q. What did you say to Mr. Hagmann as to stopping the production of Duo-Seals?

(Testimony of Joe Kerley.)

A. As to stopping the production?

Q. Yes.

A. I am not going to pin what I said down to this conversation. It might have been one before that, Mr. Fulwider. But as to your question of what did he say, either at that conversation or the one before, was to the effect that if we were infringing on their patent rights, we would stop any [445] operation that we had until we found out. That was after a discussion with other parties in Rubber Teck before I made an answer like that.

Q. And you did drop the sales for a while?

A. After one of the conversations, we did.

Q. Yes, and then resumed them right after?

A. Well, in fact, we canceled a small order we had at that particular time and later resumed.

The Court: Mr. Fulwider, I have a matter I want to try to clear up before the afternoon recess. This might be a pretty good time to clear it up, if I can.

Mr. Fulwider: Yes, your Honor.

The Court: According to your testimony, Rubber Teck started to experiment on the Duo-Seals in the early part of 1954, went into production sometime in July 1954. That is the notation I have here.

The Witness: Your Honor, I——

The Court: Is that wrong?

The Witness: I don't remember saying that they went into production in July 1954.

The Court: I asked you when you went into production, and you said sometime after July 1954.

(Testimony of Joe Kerley.)

The Witness: Oh, yes, sir, sometime after.

The Court: Your experimentation was in the early part of 1954, according to your testimony. In November 1953, [446] you wrote the Fletcher Aviation Company saying, "We are now in a position to offer Duo-Seals in the very near future."

The Witness: Then I was wrong in my estimate of the first part of 1954. As I said, my dates are very mixed up.

The Court: Then you had them and your experimentation was not in 1954, but in 1953.

The Witness: It must have been, your Honor.

The Court: All right. Now, referring to Exhibit 13, which is a letter to Rubber Teck from Wright Air Development Center, "Reference is made to your letter of February 16, 1954, in which was enclosed Rohr Laboratory Reports 182, 192, 192-1."

These were the reports on Duo-Seal, were they?

The Witness: No, sir. You mean the Rohr Aircraft reports?

The Court: Yes.

The Witness: I don't believe so. They were straight reports on compounds tested, I believe.

The Court: Does this letter refer to the compounds, that is, to the rubber material, or does it refer to the Duo-Seals?

The Witness: No, sir. I would say that the reports from Rohr Aircraft refer to the test run on rubber compounds made by Rubber Teck. [447]

The Court: Those are tests of rubber compounds?

(Testimony of Joe Kerley.)

The Witness: Yes, sir.

The Court: Then the rest of this letter relative to Duo-Seals, was that for the testing of the rubber compound?

The Witness: No. Where they refer to Duo-Seal, that would be a test on Duo-Seal, but the top reports is on the rubber compound.

The Court: When you wrote that letter to the Fletcher Aviation Corporation, November 20, 1953, in which you said you were in position to offer Duo-Seals, the aviation company couldn't have put in Duo-Seals until they had been approved by the government, could they? Do I understand that everything that goes into a government plane has to have government approval?

The Witness: Some things do not, your Honor. You take the Rohr Aircraft, for instance, used a lot of things not approved by the government. If they had a specific part to make, they could do a lot of their own approving. When you go into a Lock-O-Seal or a Duo-Seal or sealing device, it can be used in certain non-essential—what I mean by non-essential, in an airplane it is something that the stress isn't going to break and cause the man death, or something like that. A lot of companies can put those into their planes.

The Court: Without government approval?

The Witness: Yes. It isn't common practice.

The Court: In March 1954 you wanted approval on the use of Duo-Seals on drop tanks.

The Witness: You say we are on approval?

(Testimony of Joe Kerley.)

The Court: You wanted approval.

The Witness: Yes, sir.

The Court: For drop tanks.

The Witness: Yes, sir.

The Court: Then your testimony is that you could offer Duo-Seals to the Fletcher Aviation Corporation and the Fletcher Aviation Corporation could use Duo-Seals without a government approval?

The Witness: I don't say that they did, but I say there is instances.

The Court: They could?

The Witness: Yes, sir.

The Court: Did Fletcher use the plaintiff's seals without approval, government approval?

The Witness: I couldn't tell you.

Mr. Miller: Rohr did when Gross first developed them. He put them on the Coronado, 70 of them.

The Court: They were experimenting, weren't they? They were given a job and they were doing this as sort of an experimentation, trying to find out something that would solve the problem. The government didn't have any yardstick.

Mr. Miller: Rohr had their own laboratory down [449] there, but they never bothered to test them.

Mr. Fulwider: I believe the Navy approved the early Rohr work, and the Rohr lab was a Navy-approved lab.

Mr. Miller: We don't have any evidence of that.

* * * * *

(Testimony of Joe Kerley.)

Mr. Fulwider: That's all the questions that we have of Mr. Kerley.

Mr. Miller: Before I start with Mr. Kerley, you asked me to stipulate as to the date of incorporation of Green Rubber and Machine Works as being May 5, 1947.

Mr. Fulwider: Yes.

Mr. Miller: And that the name was changed to Rubber Teck on April 8, 1948, and Mr. Kerley sold his stock as of July 31, 1954. Were those the items?

Mr. Fulwider: Yes.

Mr. Miller: So stipulated. [450]

* * * * *

Cross Examination

Q. (By Mr. Miller): Now, Mr. Kerley, was the first time you ever met Mr. Gross in 1944, or was it earlier than that?

A. I believe it was sometime in 1941, the first time.

Q. That was while you were employed by McClatchie. A. Yes, sir.

Q. Was McClatchie selling rubber parts at the time that you first met Mr. Gross in 1941?

A. Yes, sir.

Q. Were they selling rubber parts for airplanes to Rohr during that period?

A. Yes, sir. We worked very closely with Rohr on quite a few items.

Q. Do you know whether during the period 1941 to 1944, Rohr did any testing of rubber parts supplied by McClatchie?

(Testimony of Joe Kerley.)

A. Yes, sir. If we supplied them with a part, most of the time we also supplied them with test samples of the rubber compound used on that part, and they tested them to their own satisfaction.

Q. What type of equipment was McClatchie manufacturing and selling generally besides rubber parts for airplanes?

A. Oil tool equipment, valve sets, liners, pistons for pumps, weight indicators.

Q. Some of those pieces of oil field equipment had [451] rubber parts in them?

A. Most all of them.

Q. Did Mr. Gross ever make an inquiry of you —before I get to that, will you tell me something about the nature of the pressures that you had to deal with in these oil field tools?

A. It is built up to considerable pressure. In those days they weren't quite as high as they are at the present time, but we worked under 500, 1000, 1200, to bring the pumps up to 1800, 2000 pounds.

Q. 2000 pounds per square inch?

A. Yes, sir.

Q. And you would have problems in connection with this oil field equipment of sealing against leakage with rubber? A. Yes, sir, considerably.

Q. In 1944, or the tail end of 1943, did Mr. Gross ever inquire of you how you made efficient rubber seals on your oil field equipment in solving the problem of how to seal these tanks on the Coronados?

(Testimony of Joe Kerley.)

A. I don't believe that it came up as to how to seal any specific thing. We might have discussed different sealing problems.

Q. Well, do you have any recollection at any time of his saying, "We have got to seal some tanks on some planes down there and we have got a rather stiff sealing problem. [452] Will you tell me how you seal on your oil field tools," or words to that effect?

Mr. Fulwider: I object to leading the witness.

The Court: This is cross examination.

Mr. Fulwider: I know.

The Court: He can lead the witness on cross examination.

Mr. Fulwider: It isn't really. Our examination was under 43(b) and was in the nature of cross examination, and as I understand it, Mr. Miller is counsel for this man.

The Court: That's right. I forgot that this witness was called under the statute.

Mr. Fulwider: A certain amount, I don't mind.

The Court: I will sustain the objection.

Q. (By Mr. Miller): Did you make any suggestions to Mr. Gross on how to effect a seal around the bolt on tanks?

A. At one time I happened to be calling on Rohr Aircraft. I know they did have quite a problem on sealing bolts around the tank. If I remember right, when I was there that particular afternoon or morning, I don't remember which, this tank was in the lab and they were having quite a problem with

(Testimony of Joe Kerley.)

it, and I know Mr. Gross made the statement that they were having a lot of trouble with it. They used what they speak of as gunk a lot of times in the fueling industry, and if I remember right, there were some rubber O rings on Mr. Gross' [453] desk, and during the discussion we were out looking at the tank by this time, or wing section, whichever it would be, and the discussion came up of countersinking around the bolt to retain the rubber seals so it could not move away by sealing around the bolt.

But, of course, that couldn't be done because your metal was a little too thin in the first place for countersinking. Your tank was of such construction it would have been very awkward to get under a countersinking machine. It all had to be done by hand, which wouldn't be too accurate.

Unless my memory fails me very much more than it ever has, I was the one that suggested the countersinking.

Then Mr. Gross came up with the idea of a metal washer dropped on top the surface of the tank, on the outside, where the metal bolt would make its contact, the head against the washer, which would act the same as a countersink.

And also, unless my memory is very bad, which I don't think it is either, that afternoon or a very few days later they used a rubber O ring to fit for the i.d. of the rubber O ring, to fit the o.d. of the bolt, and turned some washers out to fit the o.d. of the rubber ring and used those as the first tests.

(Testimony of Joe Kerley.)

Q. Your proposal to countersink and put the rubber O ring in the countersink, that preceded or came after, which, the making up of the O ring with the washer around it? [454]

A. I have been under the very strong impression all these years it was afterwards that the idea of the metal ring came up to act the same as a countersink.

Q. The metal ring was produced after you had proposed using a countersink?

A. At the same time, but afterwards. I was under the very strong impression that the idea of the countersink is what brought up the idea of the metal retainer.

Q. Did you learn at any time that Rohr contemplated, Rohr or Gross contemplated filing an application for patent on this idea?

A. Yes, sir. A short time later, I don't remember exactly, it seems to me it was only a few weeks later that I learned they were.

Q. Did you have any conversation with Mr. Gross concerning that?

A. Yes. Mr. Gross is the one that informed me that Rohr was going to file a patent application on that.

Q. Did you make any claim of interest in it at all?

A. Well, at that particular time, I believe when I learned what it was with a telephone conversation with Mr. Gross, in a more or less a serious and kid-

(Testimony of Joe Kerley.)

ding way, I said, "They can't do that. It was our idea."

I believe Mr. Gross at that particular time, I am not going to try to quote exact words, said, "Well, the next [455] time you are down we will talk the situation over," referring to the idea of the Lock-O-Seal.

Q. Did you go down to San Diego after that and have a conversation with him about it?

A. Yes, sir, I did. I believe it was either the same week of the telephone conversation or the following week, I had a conversation with Mr. Gross. We went over to Mr. Shepard's office and talked to him about it.

Q. Who was Mr. Shepard?

A. Well, at that time, and I believe he still is, I believe he was secretary and treasurer or secretary and possibly an attorney for Rohr Aircraft.

Q. When you had this conversation with Mr. Shepard, who was present at that conversation?

A. Well, I don't believe there was anyone present except Mr. Shepard and Mr. Gross and Mr. Shepard's secretary and myself. I am pretty sure his secretary was there.

Mr. Fulwider: May I inquire when this conversation took place, approximately?

The Court: He said the same week or shortly thereafter when he had the telephone conversation.

The Witness: As well as I can remember, it was the same week or the following week. I am not stating exactly.

(Testimony of Joe Kerley.)

Mr. Fulwider: All right. Thank you.

Q. (By Mr. Miller): Can you tell us the gist of the conversation [456] that you had with Mr. Shepard and with Mr. Gross, if he participated in it, in Mr. Shepard's office?

A. I can give you a general idea of it. As well as I remember, Mr. Gross at that particular time, I believe he admitted, I say admitted, he didn't have to admit it, but I believe he did say in front of Mr. Shepard that I had contributed somewhat to the idea as it was being applied for, as the patent was being applied for.

I don't remember whether Mr. Shepard come out and said, "Mr. Kerley, do you want something for your idea?" Or whether I said, "As long as I feel I did contribute something to the idea, I would like the manufacturing rights." But anyway the question of manufacturing rights came up.

Q. Who asked for the manufacturing rights?

A. I did.

Q. You asked for the manufacturing rights?

A. Yes, sir.

Q. Did Mr. Shepard indicate in any way that he was willing you should have them?

A. I don't remember his exact words, but he must have been willing I should have them, because I did get the permission to have manufacturing rights later on, to get someone to manufacture them.

Q. Was there any memorandum of any kind

(Testimony of Joe Kerley.)

made of that at the time you had the conversation with Mr. Shepard and Mr. [457] Gross?

A. I don't remember, Mr. Miller. I don't hardly think there was. I think it was more or less just a gentlemen's agreement.

This idea of dropping an O ring in a countersink, where did you get that idea?

A. Well, I have to admit it wasn't exactly my idea. We had been doing something similar to that in oil fields for a few years, maybe not exactly the way this was being used, but for sealing, which all seal under general conditions——

Q. The idea of dropping the O ring in a countersink had been used in oil field equipment made by McClatchie?

A. Something on that order. Now, it wouldn't have been used generally, but in certain specific applications.

Q. Were they used in mud pumps?

A. Yes. I would say in one specific—I couldn't tell you the company's name, I couldn't tell the year, but I know in some cases, you see—maybe I better explain this, if you will let me have the time. As you know, a mud pump builds up a lot of pressure, a lot of sand comes out of the hole, maybe two or three thousand feet down, and it has a tremendous abrasive action which begins to wear on a mud pump in most all places where the pressure is applied to it. It might hit a flaw in the sand cast, which a lot of mud pumps at that particular time were large sand casts, it might hit a flaw and [458]

(Testimony of Joe Kerley.)

begin to eat through that, and naturally most pressure, if you don't stop it, will eat the whole pump up. In this particular case where the pumps are large and it takes heavy equipment to move them, they would in a crude way drill, possibly, say a hole the size of a match, or if a bolt flattened out too much, they would try to take a hand drill or something and try to countersink in a crude way and drop an O ring in that with a metal washer over it and then screw the bolt back down, which in a lot of cases would serve the purpose for quite a while, until they started eating out again.

Q. You refer to some samples of screw seals, or what later became known as Lock-O-Seals, that you obtained from Mr. Gross or from Rohr. Were those samples of the same seal that Rohr was selling to other companies at that time, or do you know?

A. Same screw seals, yes.

Q. A sample of the same screw seals?

A. Yes, I am sure they were.

Q. When Mr. Gross gave you those samples, did he tell you he was either giving you those in confidence or that there was some secret about it that he could not divulge those samples to other people?

A. No, sir.

Q. How did you happen to contact Kyle and Green when you were employed by McClatchie?

A. Well, Mr. Green worked for McClatchie with me for a number of years, and then he left the employ of McClatchie Manufacturing Company and went in for himself in a small machine shop.

(Testimony of Joe Kerley.)

Q. Did Kyle also work at McClatchie's, or do you know?

A. Yes, sir, they both worked there. Mr. Green worked there as a maintenance man, and Mr. Green was in the maintenance shop as a tool man.

Q. Now, you took Mr. Green or Mr. Kyle or both of them to San Diego and negotiated this agreement that resulted in the Rohr license to Kyle and Green?

A. I am sure they were both present at all the meetings.

Q. Was the agreement, Exhibit 90, the one you negotiated between Rohr and Kyle and Green?

A. Yes, sir. I have read this agreement and I would say that, not word for word, possibly, but it is the oral understanding had between Rohr and Green and Kyle, or they had between the two of them.

Q. You were to get a sort of a five per cent commission or royalty or override, whatever you want to call it, on the sales made by Kyle and Green under that agreement, were you?

A. That is the understanding I had with Mr. Green and Mr. Kyle.

Q. Was that ever reduced to writing, if you know? [460]

A. No, sir, it was never reduced to writing.

Q. What was the equipment that was turned over to Kyle and Green following the execution of this agreement, Exhibit 90, as best you can recall?

A. What was the equipment in the way of pro-

(Testimony of Joe Kerley.)

ducing or making Lock-O-Seals? Is that the question?

Q. Yes.

A. It was, as well as I remember, possibly some single cavity molds, which cannot be used under production, of course. There possibly was two or three die sets for punching metal. If I understand it right, Rohr punched some of their own metal down there and bought the rubber rings—well, you didn't ask me that.

But, anyway, it was the die sets, two or three die sets, just single-action die sets.

Outside of that, of the samples that Mr. Gross gave to Kyle and Green, there was some templates, I would call them. When Rohr Aircraft were supplying the screw seal, Lock-O-Seal, whichever it was called in this particular case, they had a board, say a few feet long, that they dropped these screw seals in and those screw seals were then wrapped within clear tape. They didn't amount to very much. $5.00 would have bought the whole works. I am speaking of what they used for wrapping them with now.

Q. They also turned over to you a few Lock-O-Seals or [461] screw seals? A. Yes.

Mr. Miller: I wonder if we could have the photographs Mr. Gross was identifying yesterday. Didn't you have a photograph of a mold?

Mr. Fulwider: Yes.

Mr. Miller: I can't recall the exhibit number. It is Plaintiffs' Exhibit 58 for identification.

(Testimony of Joe Kerley.)

The Clerk: It is in evidence.

Q. (By Mr. Miller): I show you Plaintiffs' Exhibit 58 and ask you whether or not that shows the mold, such as the single-cavity mold that you are referring to, or do you recognize it?

A. I don't exactly recognize this as a mold.

Mr. Fulwider: Which number is that?

Mr. Miller: That is 58. I was under the impression the picture of the mold was different.

Mr. Fulwider: That is the only one, I believe. There was a picture showing a lot of boxes.

The Witness: This could be a small experimental mold.

Q. (By Mr. Miller): Will you explain to the court just what is a single-cavity mold?

A. A single-cavity mold is a mold that will only produce one rubber part at a time, one part that it is [462] designed to make at a time.

Q. Were those molds suitable for manufacturing on a production basis?

A. Oh, no. You couldn't use them as production at all. The cost of your part would be so high that you would never sell it.

Q. The molds that Green and Kyle received from Rohr for making Lock-O-Seals were suitable for making how many different sizes of Lock-O-Seals, do you recall?

A. I could pin it down to definitely three, possibly five.

Q. Three or possibly five? A. Yes, sir.

Q. Did Green and Kyle make up any molds for

(Testimony of Joe Kerley.)

production purposes, or did they use those single-cavity molds?

A. No, sir. Green and Kyle, if I remember right, made some 98 cavity molds, they would make 90 parts in what you call a cycle in a rubber press, and I believe they made those in 3/16, 1/4 and 5/16 sizes. If there was a larger size sold, if there was, there would have been a smaller amount of cavities per mold. Those were straight compression molds.

Q. Do you have any way of knowing whether or not Green and Kyle spent any substantial amount of money to develop those 98 cavity molds?

A. Yes. Those molds run into a little money, and I [463] would say the way they were made at that time, they would run possibly—this is just an estimate now, I am no tool man, possibly $3 a cavity.

Along with that, with the punching of the metal, they purchased the rolled metal strips and bought a punch die, punch press, to handle the dies for punching the metal.

Q. Were the Lock-O-Seals made by Green and Kyle identically the same as the sizes, as to dimensions, that the Lock-O-Seals were that you had obtained from Rohr?

A. Let us say they were supposed to have been. I wouldn't say they come out exactly. There was a variation there possibly. When you use different compounds of rubbers, you have to allow for the shrinkage of the rubber in the mold cavities,

(Testimony of Joe Kerley.)

and maybe you won't get the exact shrinkage in a small part within a thousandth or so.

Q. Did they do any developing of their own as to altering the dimensions so that the parts would fit properly and there wouldn't be too much or too little rubber?

A. In offering the dimensions?

Q. Yes.

A. I would say there was some offers made or changes on dimensions, possibly. It could have been in the way of expediting manufacturing or maybe a little better seal. I won't say they were accepted. I would say they offered them, at least.

Q. How many sizes of Lock-O-Seals did Green and Kyle make?

A. That is very hard for me to say truthfully. I know the 316, the ¼ and 5/16, which were the popular sizes. I believe we did get a very, very few calls for possibly ½ inch, ⅝, maybe a ¾ for test some place, possibly.

Q. Now, most of the output of Green and Kyle was distributed where, or how was that disposed of or sold?

A. It was not distributed at all. Well, from Green and Kyle it was not distributed. It all went to Industrial Specialties.

Q. They were the exclusive sales agents for the output of Green and Kyle?

A. They were the agents. I don't know whether they had it exclusive or not.

Q. Did you ever hear from Mr. Shepard pro-

(Testimony of Joe Kerley.)

posing that Green and Kyle terminate their agreement with Rohr so that a new program could be entered into? A. Yes, sir.

Q. Will you tell us about that?

A. Well, I am almost positive that that was in a letter form. I believe that the letter from Mr. Shepard came to me along with the form for Green and Kyle to sign, which would terminate their agreement with Rohr Aircraft. In this letter, I believe that Mr. Shepard stated that the cause—I [465] am sure this letter was from Mr. Shepard—that the cause for terminating was so they could reorganize, if I remember right, sales, reorganize the sales end of it or reorganize the distribution of screw seals or Lock-O-Seals, whichever they called them at that time.

Q. Were Industrial Specialties very successful?

A. In selling these seals? No, sir.

Q. Can you give us some idea about the volume of business they did do?

A. It was very low, Mr. Miller. I would say that the combined number that was sold wouldn't have paid for, in profit, one mold that was made at that particular time to Industrial Sales.

Q. I am referring now to Exhibit 17. Did you draw up that agreement or was it somebody in the Franklin C. Wolfe Company that drew up that agreement and submitted it to you?

A. I assume either Franklin C. Wolfe Company or their attorney drew it up. I never saw it until it was presented to me.

(Testimony of Joe Kerley.)

Q. It was presented to you by them?

A. Yes, sir.

Q. Do you know why that agreement—withdraw that.

At the time of that agreement, which is 1948, I believe—is that right? A. November, 1948.

Q. At the time of that agreement, did Franklin C. Wolfe Company know that you were with Rubber Teck?

A. Yes, sure. I am sure they did.

Q. Do you know why that agreement was drawn up with you personally rather than with Rubber Teck Corporation?

A. No, sir, I don't. I believe if the agreement was never signed, which I didn't say it was or wasn't, but I do know when I did receive the first one, one reason I didn't sign at that particular time was to try to find out why it was made with me instead of Rubber Teck.

Q. Well, in 1948, were you still to have the manufacturing rights, according to your understanding with Mr. Shepard?

A. Yes, sir. I learned, and I can't tell you how, unless possible someone from the Franklin C. Wolfe Company, maybe Mr. Hagmann, it could have been, I don't say that they did, but I learned that they did have manufacturing and sales rights from the Rohr Aircraft Company.

Now, that is the first I had heard of any change after Mr. Shepard had asked me to get a release

(Testimony of Joe Kerley.)

from Green and Kyle, and when I heard of this I was naturally a little upset. I don't believe I called on the phone. I think I went to San Diego and had a discussion with Mr. Shepard. I believe Mr. Karres was with me at that time.

Q. I call your attention to Exhibit 91 and the last [467] sentence in paragraph 2, which reads:

"Licensee"—that is Franklin C. Wolfe—"agrees not to contract for or sublicense the manufacture of sealing devices hereunder without first securing consent of the licensor."

Did Mr. Wolfe or anybody connected with the Wolfe Company tell you that it was because of that provision in the agreement that they made the agreement, Exhibit 17, with you personally?

A. I couldn't answer that too truthfully. I don't remember it, if they did.

Q. You don't remember anything like that?

A. No.

Q. Did Shepard ever tell you that you were to have the manufacturing rights if it was made with Wolfe?

A. Well, when I went to Rohr to talk to Mr. Shepard about it, after I found out Franklin C. Wolfe Company had both sales and manufacturing rights, I took Mr. Karres with me that day, because we were both interested in the company, stockholders in the company, and in the conversation with Mr. Shepard, he told me that—I believe these are his exact words—he told me that when they let the contract to the Franklin C. Wolfe Company for

(Testimony of Joe Kerley.)

sale and manufacturing of Lock-O-Seals, that the Wolfe Company had agreed in turn to give me manufacturing rights, and I believe that is almost the exact [468] words to that effect, and then he asked me if I had—he seemed a little bit surprised at that particular time that I hadn't, and at that time I had no indication whether they were going to or not.

Q. In 1948, did the Franklin C. Wolfe Company have any plant?

A. If I remember right, they had just a sales office. I don't believe they even had any facilities for packing or shipping at that time. Possibly they did.

Q. Did they have any facilities for stamping out the retainers? A. No, sir.

Q. Did they have any facilities for molding and curing rubber?

A. No, sir, no facilities at all.

Q. Referring to Exhibit 11, did you dictate this letter for Mr. Aldridge, or is that Mr. Aldridge's work?

A. No, sir. I am sure I didn't dictate this letter. Mr. Aldridge wrote a lot of the letters. I did check some of the letters.

Q. This mentions in here Duo-Seals, or combination of rubber O ring. Is there an O ring in Duo-Seals, strictly speaking?

A. Strictly speaking, I wouldn't construe it to be an O ring. I don't believe an engineer would

(Testimony of Joe Kerley.)

construe it to be [469] an O ring in the Duol-Seal.

Q. It certainly is not like an ordinary O ring, is it? A. No, sir. [470] * * * * *

Q. Now, I will show you Exhibit for identification U. Did you have any knowledge of the issuance of that sheet by the government? I think it may be a two-page affair.

A. I would like to hear the question again, please.

(Question read.)

The Witness: I can't say that I did of this particular sheet.

Q. (By Mr. Miller): Were you aware of the fact that the government had got out standard specifications on O rings? A. Oh, yes.

Q. Is that one of them?

A. I would say it is. It says inactive for design, though.

Q. As of what date? A. May, 1953.

Q. It was issued as of what date? What does that show?

A. I don't believe it shows here.

Q. Isn't this the approval date, January 26, 1949? A. Oh, yes, that's right.

Q. How about Exhibit V for identification, which I now show you? Do you have any knowledge of that being issued about the time of its date? [471]

A. Yes. I was more or less familiar with the standard sizes put out by the government for O rings, packing rings, and as they were used in

(Testimony of Joe Kerley.)

hydraulic systems and sealing devices. Maybe not this particular sheet.

Q. I call your attention here to Exhibit 2, which is dated June 1, 1949, some four or five months after Exhibits U and V, in which they say that they are transmitting Report No. 347-D, which is Exhibit 1, and they mention changing certain sizes. Did you change your sizes of the Lock-O-Seals in response to the receipt of this report, or do you have any recollection of that?

A. I don't have any specific recollection of it. I would assume we did.

Q. Did you inform Mr. Wolfe as to what would be involved in the way of new tooling and molds to change over to the new dimensions in 347-D?

A. I am not sure. They would have known that there would be some involvement in cost of changeover. I know in some instances it was brought to their attention that there would be quite a bit of change, but on these particular ones, maybe I didn't. I am not sure of that.

Q. Now, how was this report, 347-D, used? Were copies of that distributed to the trade?

The Court: How would he know whether that was distributed to the trade or not? He can testify they were [472] distributed to him.

Mr. Miller: Well, he was in contact with the trade.

The Witness: I would say it was distributed to the trade, because your engineers have got to have your information on your sizes and your di-

(Testimony of Joe Kerley.)

mensions and what have you, to know what they are going to use. [473]

* * * * *

Q. (By Mr. Miller): Did you ever discuss making a one-piece sealing device, such as the Duo-Seal, with Mr. Gross?

A. Yes. It was discussed at one time.

Q. Where did that discussion take place?

A. I believe it was at Rohr Aircraft.

Q. Do you recall who else was present besides you and Mr. Gross? A. No, sir.

Q. Will you relate what the discussion was?

A. Well, I believe the idea of a one-piece was brought up. [477]

Q. By whom?

A. I believe I suggested it to Mr. Gross. I am not sure whether that was at the time we had a request a long time ago or a discussion came up to try keep the two pieces together for more convenience of installation. I don't recall what brought the thing up, but it was discussed with Mr. Gross, and at that particular time Mr. Gross didn't think it would work, or said it wouldn't work because it wasn't floating within the metal container.

Mr. Lee: Can we have the place and time of this conversation?

The Witness: I can't pin it down to any particular time. It was after the Lock-O-Seal was in operation.

Mr. Lee: After the war?

The Witness: Yes, I believe so, after the war.

(Testimony of Joe Kerley.)

Q. (By Mr. Miller): Can you orient it with relation to the time you discussed the matter with the Douglas people?

A. Possibly just before or just after that. That is as close as I can get it.

Q. That occurred approximately when? When did you discuss it with Douglas?

A. I believe I stated yesterday I couldn't pin that down, either.

Q. Was that quite some time in advance of your making up the seals for Mr. Reischauer?

Mr. Fulwider: I object to counsel leading the witness. He has already said he didn't know, and now Mr. Miller asked him if it is well in advance of some date.

The Court: Overruled. You may answer.

The Witness: Yes. It was before that, considerably before that.

Q. (By Mr. Miller): Mr. Gross said he preferred to have the rubber ring floating inside of the metal ring? A. That's right.

Q. At the time of this discussion, did he show you at all or discuss Exhibit 36?

A. What was the question again, please?

Mr. Miller: Will you read the question, please?

(Question read.)

A. No, sir. I have no recollection of ever discussing this at that time or seeing this.

Q. Did you ever see Exhibit 36 prior to the time of this trial?

A. No, sir. I don't think I ever saw it.

(Testimony of Joe Kerley.)

Q. I show you Plaintiff's Exhibit 13, which makes reference to Rohr Laboratory Reports 182, 192, and 192-1.

Mr. Miller: I understand, Mr. Fulwider, that we do not have a copy here of Report 192-1?

Mr. Fulwider: That's right, yes.

Q. (By Mr. Miller): Now, had you transmitted some [479] reports to Wright Air Development Center of Rohr Laboratory in an effort to get approval of Duo-Seals?

A. Well, yes, I had a little trouble remembering this yesterday, but I believe the letter itself would speak for it here that Rohr Laboratory reports, I am assuming that we got the reports and sent them on to Wright Field. This letter must be in answer to it.

Q. Here is one of the reports referred to in that letter. It is Exhibit 5, which is Report No. 192. This refers to some testing of a packing O ring, gasoline or kerosene, Rubber Teck, Inc., RT-167-60, conformance with mill, P-5315-A. What type rubber was that? Was that used on Lock-O-Seal O rings?

A. No. That particular rubber would not have been used on Lock-O-Seal rings. If you are referring to the ones we made for the Franklin C. Wolfe Company, no. [480]

Q. (By Mr. Miller): All right. Well, now, the rubber that you used on the O rings which was made for Franklin C. Wolfe Company was made out of what rubber, how did you identify that?

(Testimony of Joe Kerley.)

The Court: Does rubber have anything to do with it at all? There is no claim here of any infringement of any rubber patent of any kind. I don't know as there is any claim of any unfair competition, as far as rubber is concerned.

Mr. Miller: I don't know, either, your Honor, and I have been trying to find out from the start of this case.

Mr. Williams: If your Honor please, that goes to the materiality of this exhibit. We objected to these exhibits at the beginning as being immaterial to this.

The Court: Well, I am asking counsel. Mr. Fulwider, is there any question of any rubber here? Are you claiming they stole your rubber process?

Mr. Fulwider: No, not as to compounding rubber, no, your Honor.

It is our position, as the letter shows, Exhibit 13, that they procured our own company to make tests on them.

The Court: Of rubber?

Mr. Fulwider: And that they then sent those tests on to Wright Field.

The Court: You are not contending, are you, that they [481] stole your formula relative to rubber?

Mr. Fulwider: No, your Honor, not at all.

The Court: What difference does it make, then, about these rubber tests?

Mr. Miller: Well, I don't know. Apparently not.

(Testimony of Joe Kerley.)

The Court: If Mr. Fulwider will object to the materiality, I will sustain the objection, because I don't think the rubber has anything to do with it at all.

Mr. Williams: Then, I move to strike the exhibits as being completely immaterial to the case.

The Court: I will overrule that, because it is immaterial anyway.

Mr. Williams: Thank you.

Mr. Miller: We are concerned somewhat about a record being established here with some unfair competition.

The Court: That is right, but the unfair competition hasn't anything to do with rubber. Now, there is an allegation in the complaint that the workmanship and materials are inferior in the case of the defendant's product. Now, you haven't introduced one iota of evidence so far to show that there is any inferiority with its workmanship or materials.

Mr. Fulwider: I believe that is right.

The Court: Are you going to try to establish that?

Mr. Fulwider: I am not sure what evidence we will have [482] that goes to that point particularly.

The Court: You ought to be sure; you ought to know by this time. We are halfway through the case at least.

Mr. Fulwider: In general, I think there is no argument but what the Duo-Seals are sufficiently

(Testimony of Joe Kerley.)

satisfactory to be merchandised, to meet as I understand it Government specifications.

The Court: Well, you made several allegations in your complaint that you have ignored so far in the evidence.

Mr. Fulwider: I believe that is right, your Honor.

The Court: And I assume that you are going to continue to ignore them. Now, in paragraph 19 of your complaint, you said, "Said sealing devices manufactured by the defendants are of the same appearance of the plaintiffs', but are of inferior quality and workmanship."

Now, if you want to show that that rubber was used in the defendants' sealing devices and was inferior to the rubber as used in the plaintiffs' sealing devices, it may be this is material.

Mr. Fulwider: No. We do not plan to do that.

The Court: Then, I think all of this is immaterial.

Mr. Fulwider: All the rubbers have to meet rigid specifications. It is our position that the particular Duo-Seal as made by them is inferior to our product.

The Court: Mr. Miller, I don't think that the quality [483] of rubber has any question in this case, so I will object to it being introduced into this record, because we haven't got time to take care of it. The plaintiff is not contesting in any way the workmanship or the quality of the rubber of the O ring.

(Testimony of Joe Kerley.)

Mr. Fulwider: Yes, that is right.

Mr. Miller: Well, I am disposed to acquiesce in your objections, your Honor, and govern myself accordingly. The thing that has been bothering me from the start is this allegation in that same paragraph about them having transmitted and having used trade secrets and other data and information.

The Court: All right. There is no trade secret involved here relevant to the rubber in the O ring, and there is no trade secret in the O ring itself, because from the statement of counsel, they have been using O rings for many, many years.

Mr. Miller: How about this "information"?

The Court: Don't try to anticipate what the evidence is going to be. You are anticipating a defense here, now. We have enough here without anticipating.

Mr. Miller: No, but Mr. Fulwider confronted this witness yesterday with the Wright Field letter and the two reports.

The Court: Well, if I had known as much then as I do [484] now, I would probably have sustained the objection to them going in, but they are in now. I won't strike them when they are in, but I will probably disregard them when I come to determine the rights of the parties in this case.

I might say, Mr. Miller, I went into that yesterday, not on the point that there is any question of the rubber content, of the manufacture of the rubber or anything like that, but I was interested in

(Testimony of Joe Kerley.)

the time element and I was interested in the dates, and that is why I inquired of the witness yesterday to try to establish the time this letter was sent relative to the other dates that had been mentioned by this witness.

Q. (By Mr. Miller): Now, referring to Exhibit 17, approximately when was it that you discontinued operating under that agreement?

A. This is the agreement made with Mr. Green and Kyle.

Q. That is the agreement between Mr. Kerley and Franklin C. Wolfe Company.

A. Oh, yes.

Mr. Lee: Counsel, didn't we have a stipulation with Mr. Williams yesterday that that agreement was acted upon as though it was signed?

Mr. Miller: Yes.

The Court: Yes.

Mr. Lee: And with the same terms and conditions that [485] were in it.

The Court: Yes, we had, but the question is, when did they cease to operate?

Mr. Lee: The contract has a five year term in the contract.

The Court: Well, I know, but that is not the purpose. If that was an objection, it is overruled. He may answer.

A. I would say in '53.

Q. (By Mr. Miller): And what was the reason for that?

(Testimony of Joe Kerley.)

The Court: Now, Mr. Miller, what are you trying to do? Of course, I suppose that you have a right to ask every question that opposing counsel asked and have it reiterated. Now, he said they ceased to operate because of a lack of orders from Franklin C. Wolfe Company. Aren't you satisfied with that answer?

Mr. Miller: No. There was one other reason for that.

The Court: Oh, there was?

Mr. Miller: Yes.

The Court: I asked him and he didn't give the reason yesterday.

Mr. Miller: There was an additional reason to that.

The Court: What is the additional reason?

The Witness: Well, that was the main reason, of course, we had a sales agreement with the Franklin C. Wolfe Company. That was canceled out, and under that sales agreement, they [486] were not supposed to manufacture anything in their plant that could be manufactured by us, without our agreement, and then the sales agreement was canceled.

The Court: Is the sales agreement in writing?

Mr. Miller: Yes.

The Court: Is it in evidence?

Mr. Miller: I don't believe it is in evidence, but didn't we have that in the depositions?

Mr. Fulwider: Yes.

(Testimony of Joe Kerley.)

The Court: If we have a written document, then why take the statement of a witness?

The Clerk: That is in evidence here.

Mr. Miller: I don't believe that one has been brought up. I want to have him identify this.

Mr. Lee: Are these in evidence?

Mr. Miller: This No. 20 is a report.

Mr. Lee: No. 21. [487]

Q. (By Mr. Miller): Is this the sales agreement that you had reference to?

Mr. Fulwider: Has that got a number yet?

Mr. Miller: Exhibit 21.

Mr. Fulwider: 21. Thank you.

The Witness: Yes, this is the one I was referring to.

Q. (By Mr. Miller): What is that?

A. Yes, this is the one I was referring to.

Mr. Miller: I will offer in evidence Exhibit 21.

The Court: It may be received.

The Clerk: Is this going to be for the defendant or is it the plaintiff's exhibit? Mr. Miller represents the defendant.

Mr. Fulwider: We will offer it in evidence then, your Honor.

The Clerk: Exhibit 21.

(The exhibit referred to was received in evidence and marked as Plaintiff's Exhibit No. 21.)

[See page 751.]

(Testimony of Joe Kerley.)

Q. (By Mr. Miller): This agreement provides in paragraph 3:

"Franklin C. Wolfe Company, Inc., agrees that during the period of this agreement no competitive line of products shall be handled by that organization except by written authority of Rubber Teck, [488] Inc."

Did you have any information as to whether or not the Franklin C. Wolfe Company was handling a competitive product in 1953?

Mr. Fulwider: I object to that, your Honor. That is entirely beyond the scope of the testimony yesterday. It may be material, but it is part of the defendant's case. I think we shouldn't go clear far afield here. We would like to get the plaintiff's case before the court.

The Court: Objection overruled. He said yesterday that the reason was the lack of orders. Now he says this morning that there is another reason. I would like to have the two reasons together.

Mr. Fulwider: That's all right, but I raise the objection at this time so that we don't go clear off into some other agreements here and get far afield from the direct examination yesterday.

The Court: May I ask this witness a question? Let me have the agreement, will you?

The Witness: Yes, sir.

The Court: Was one of the reasons that you ceased to make these fasteners because you were of the opinion that Franklin C. Wolfe was not

(Testimony of Joe Kerley.)

carrying out the agreement which has been marked here as Exhibit 21?

The Witness: Yes, sir. We didn't think they were [489] carrying out the agreement. However, we continued to make the Lock-O-Seals up until the time the orders slacked off. This sales contract was cancelled out.

The Court: Even though you didn't think they were living up to the agreement, you continued to work under the agreement until the orders slacked off?

The Witness: As far as I remember.

The Court: Then really and truly the reason you gave yesterday as to why you ceased to operate, that is the lack of orders, was really the true reason?

The Witness: Yes, sir, that is the main reason, as far as I know.

Q. (By Mr. Miller): The lack of orders was due to the fact that Franklin C. Wolfe Company——

The Court: Now, let's don't argue the matter. This witness has testified. I am satisfied with his testimony.

Q. (By Mr. Miller): Did Rubber Teck manufacture for Rohr any other rubber articles besides O rings for Lock-O-Seals?

A. Yes. We manufactured some products for Rohr Aircraft.

Q. Were they tested by Rohr? Did Rohr make tests on those other articles?

(Testimony of Joe Kerley.)

A. Well, I would assume so. They wanted to know whether they worked right or not or they wouldn't continue to [490] order.

Q. Did you get copies of such test reports on these other articles?

A. I would say we had some copies of the tests run on the rubber to make sure it stood up to their specifications.

Q. All of the rubber that went into the O rings for Lock-O-Seals you made for the Wolfe Company was identified by what number?

A. Mostly by RT-1007.

Q. And you obtained that RT-1007 from what source?

A. We bought that from the Wolfe Company.

Q. Bought the raw rubber and compounded it?

A. The rubber compound, after it was compounded.

Q. Referring to Exhibit 7, do you know whether or not copies of these data sheets were distributed to the trade?

The Court: What is Exhibit 7? What does it refer to?

Mr. Miller: Franklin C. Wolfe.

The Court: I know, but what material? Was it rubber of what?

Mr. Miller: Sizes.

The Court: Sizes, you say?

Mr. Miller: Yes.

The Court: All right.

(Testimony of Joe Kerley.)

The Witness: You asked me if I knew whether that [491] was distributed or not?

Q. (By Mr. Miller): Yes.

A. Yes, I would say I did.

Q. And were they distributed to the trade?

A. Yes, I just said they were.

Q. On the matter of molds for making up Stat-O-Seals, did the Franklin C. Wolfe Company ask Rubber Teck to submit a bid for making those molds? A. Yes.

Q. And that request for a bid to make the molds for the Stat-O-Seals occurred before or after you had delivered Duo-Seals to Reischauer?

A. To the best of my recollection, it was after.

Q. And did Rubber Teck submit a bid?

A. I believe we did, but I am not too sure, Mr. Miller.

Q. Whose province at Rubber Teck was that?

A. That would have been Mr. Grass' province to submit bids on molds. [492]

* * * * *

Cross Examination

Q. (By Mr. Williams): Mr. Kerley, you testified yesterday that the first time you met Mr. Gross was in 1941, that is true, just to refresh your recollection? A. I believe that was the year.

Q. At that time you stated you were working for McClatchie Engineering?

A. McClatchie Manufacturing.

Q. When did you go to work for McClatchie Manufacturing? A. 1936.

(Testimony of Joe Kerley.)

Q. You also stated yesterday that during the time you were with McClatchie Manufacturing in the oil tool business, manufacturing of oil tool parts and equipment, that you became acquainted with the O ring sealing principle in the oil fields.

A. That's right.

Q. Do you recall how long prior to your meeting with Mr. Gross you became acquainted with this principle?

A. Well, if I met Mr. Gross in 1941, I would say it was five years, approximately. [493]

Q. Approximately five years before. You used the term yesterday "countersink." The first time I heard the word "countersink," I didn't know what it was. I am still not sure. Will you please go to the board and show the court what you meant by the term "countersink" as applied to a sealing principle?

A. (Witness going to blackboard.) Well, I suppose most everyone knows what it is. We will assume this is a solid piece of metal. Thickness has nothing to do with it. These two planes here are equal, which I haven't got them drawn equal, and if you countersink any depth down into here, I mean if you bored a hole down into it, it would be counted as a countersink.

Q. You stated yesterday that you said to Mr. Gross, I believe these were approximately your words, "Why don't you"——

You stated to Mr. Gross he should drop a rubber O ring into a countersink.

(Testimony of Joe Kerley.)

A. That was it.

Q. Would you draw for the court, if you can, a diagram of what you meant.

A. If you countersunk on a straight line which gives these square sides and you dropped a rubber O ring into here, this isn't going to be round, you have your bolt through here, the head of your bolt up here, and you drop a washer underneath here, my idea is you would get the same compression, you [494] would retain the O ring here and here the same as you did in a metal washer, retainer.

Q. All right.

A. You get the same sealing action.

Q. Thank you, Mr. Kerley. You may resume the stand.

(Witness resuming the stand.)

Q. You have been working with Lock-O-Seals for a number of years, is that true?

A. Yes, sir.

Q. You have been selling them for a number of years or you have been manufacturing them, I should say.

A. Manufacturing for a number of years, yes.

Q. In your opinion, is there any difference in principle between what you have described on the board here as a countersink and the principle of the Lock-O-Seal?

A. Not any principle of sealing. It would seal the same.

Q. Same result? A. Yes.

Q. You would have expansion in the rubber in

(Testimony of Joe Kerley.)

all four directions such as you have in the Lock-O-Seal? A. Right.

Q. You would have an outside retainer similar to the metal washer? A. Right. [495]

Q. Now, Mr. Kerley, going back to the day, calling it the day you referred to as the day of the invention, you made the statement from the stand yesterday that there was a sack of rubber O rings on Mr. Gross' desk.

A. That's right. There was quite a number of O rings around.

Q. Did McClatchie Manufacturing Company manufacture O rings for Rohr at that time?

A. Not in any quantity. We furnished a few. I believe we even furnished a few that they used in the Lock-O-Seal or Duo-Seal at that time, or screw seal, whatever they call it, screw seal.

Q. Do you happen to remember whether or not the rings that were in this bag on Mr. Gross' desk had been manufactured by McClatchie?

A. No, I don't believe they were manufactured by McClatchie.

Q. Do you know if McClatchie manufactured rings of the same size that were in the bag?

A. We did manufacture rings of that size.

Q. Do you recall the size of the rings?

A. I mentioned it was a quarter inch O ring.

Q. Were those O rings in that bag used in this experiment or this work you and Mr. Gross entered into that day you testified to the other day?

(Testimony of Joe Kerley.)

A. I couldn't swear to that, but I believe they were.

Q. Would you tell me what you meant when you stated yesterday that you turned out a washer?

A. Yes. To the best of my recollection, there was a washer turned out.

Q. This is the day that you had the discussion with Mr. Gross?

A. As well as I remember, it was the same day. The metal washers were turned out.

Q. What do you mean by turned out?

A. The i.d. of the metal washer——

Q. That is the inner diameter?

A. The inner diameter, the i.d., was turned out to fit the o.d. or outer diameter of the O ring.

Q. That was in the bag?

A. That was in the bag.

Q. Then what did you do?

A. They were applied, so far as I remember, right to the application right there for test.

Q. Applied to this tank that was in the lab?

A. Yes.

Q. Do you recall from what airplane that tank came?

A. I believe they designated them at that time as Coronados. I don't remember the government number of them, but Coronados. [497]

Q. Were you familiar at that time that Rohr had a contract for reconversion of Coronados?

A. Well, I am not too sure whether I under-

(Testimony of Joe Kerley.)

stood it or not. I assumed they had by having the plane. The plane, as I remember, was right outside on the ramp, as it came up out of the water.

Q. And the wing of the tank of that plane was in the laboratory?

A. That is what I understood at that time.

Q. Did you take these washers and O rings and apply them to the tank at that time?

A. I didn't myself, but my recollection is it was done right there.

Q. Do you remember how many?

A. Well, I would say between possibly six and a dozen of them, between six and 12.

Q. Were they applied to the tank proper or were they applied to a door of the tank?

A. That I don't remember. I only remember it was applied to what I would call the overall of the tank.

Q. Was a test put on?

A. Yes, if I remember right.

Q. Do you remember what kind of test?

A. A pressure test.

Q. What is a pressure test? [498]

A. A pressure test would be to build your tank up to a certain amount of poundage.

Q. Inside the tank?

A. Inside the tank, the internal pressure.

Q. Was that done with air or liquid?

A. It must have been done with liquid because as well as I remember it stopped the leaks, and I don't believe that was done with air.

(Testimony of Joe Kerley.)

Q. Do you recall in the test there were some bolts with O ring washers and some without?

A. As well as I remember, the only ones that had them were somewhere between six and 12 of them and the rest of them were not. The ones that had the seal at that time, which didn't have a name at that time, under them, if I remember right, did not leak, and the rest of them did.

Q. You saw that? A. I saw that.

Q. You stood there and watched it?

A. Yes.

Q. That followed a discussion between you and Mr. Gross where you suggested countersinking and he suggested the metal washer?

A. That was after the discussion.

Q. Yes.

A. That was a test made after that discussion.

Q. When is the first time you heard of the name Mr. Cornwall?

A. The first time I heard the name Mr. Cornwall was in the deposition.

Q. Are you familiar with the fact that the plaintiff in this case contends that the patent in suit was originated by Mr. Gross and a Mr. Cornwall?

A. I am now, yes.

Q. You never heard of that name before until the deposition?

A. If I did, I couldn't recall it at all.

Q. You don't know of any Mr. Cornwall that was there the morning or the afternoon of this discussion we talked about?

(Testimony of Joe Kerley.)

A. If he was there, I don't remember being introduced to him. I don't remember him at all.

Q. Are you aware that Mr. Cornwall made a statement in his deposition that the idea of the Lock-O-Seal and the metal washer around the O ring was 100 per cent his?

Mr. Fulwider: I object to that. We are getting way outside the scope.

The Court: Sustained.

Q. (By Mr. Williams): Mr. Kerley, when you and Mr. Gross called on Mr. Shepard after you had been advised by Mr. Gross that Rohr Aircraft was applying for a patent, do [500] you recall whether or not Mr. Gross or Mr. Shepard or both of them indicated to you by words or by conduct that they believed you had an interest in that patent?

A. Well, if I remember right, I believe Mr. Gross mentioned it to Mr. Shepard, that I had had something to do possibly with the idea. Now, whether Mr. Shepard knew anything about it before that time or not, I can't say.

Q. Do you recall what Mr. Shepard stated in reply to that, your position on the patent?

A. I don't remember the words. There was something come up to the effect that, I believe, it was too late for me to get in on the patent, which I didn't ask for, didn't figure, possibly, I had put in enough to have a patent myself, but I do believe Mr. Shepard's words were pretty close to this,

(Testimony of Joe Kerley.)

that they could issue me manufacturing rights on it.

Q. But they couldn't put you on the patent?

A. He could have said that. [501]

* * * * *

Mr. Williams: I have just one more question.

Q. You previously testified, Mr. Kerley, that you received data sheets from Rohr directly or from Rohr through the Wolfe Company in reference to Lock-O-Seals. A. Yes, sir.

Q. The data sheets have the dimensions, and so forth, on them? A. Yes.

Q. You testified, I believe, as to one data sheet, Exhibit No. 1, and I believe the question put to you was, was this typical of those you received, and you answered yes. A. That's right.

Q. Can you tell me if from these data sheets, and this question is based on your many years of manufacturing, could you from these data sheets design and produce a Duo-Seal?

A. I don't believe from that data sheet as the Duo-Seal is made today that you would design it or could design it from that data sheet.

Q. You couldn't do it?

A. Couldn't do it.

Mr. Williams: I have no further questions. Mr. Fulwider, anything further?

Mr. Fulwider: Yes, a few. [515]

Redirect Examination

Q. (By Mr. Fulwider): Now, Mr. Kerley, as I

(Testimony of Joe Kerley.)

understand it, you met Mr. Gross in his office down at Rohr one day in 1944, the day you had the conversation about the countersink, is that correct?

A. That's right.

Q. What time of the day was it?

A. I believe I stated before it was either around 10:00 o'clock in the morning or somewhere around 2:00 in the afternoon. I can't be too sure of that.

Q. You think it was either 10:00 o'clock in the morning or 2:00 o'clock in the afternoon?

A. Somewhere around there.

Q. Which was it?

Mr. Williams: He has already testified that he can't remember which it was.

Q. (By Mr. Fulwider): You don't remember whether it was morning or afternoon?

A. No, sir.

Q. You had a conversation with Mr. Gross. What did he tell you about the sealing problem?

A. He mentioned the fact that they had a sealing problem on, as I call it, a tank.

The Court: Didn't we go into this on direct examination? [516]

Mr. Fulwider: No, your Honor, we didn't go into any of this. This was entirely brought up by Mr. Miller yesterday afternoon.

The Court: All right.

Q. (By Mr. Fulwider): What did he say, what kind of sealing problem?

A. A sealing problem around the bolts, leakage around the bolts.

(Testimony of Joe Kerley.)

Q. What did he say about what they had done to solve this problem?

A. I believe I have already stated that they said they had tried most everything in the way, as I mentioned yesterday, from sealing compounds, what are called gunk, that is the nickname for it.

Q. They tried gunk? A. Yes.

Q. What else had they tried?

A. Well, I can't name any specific thing. I understood from Mr. Gross' conversation that day that they tried several ideas.

Q. I would like to get not just your understanding from his conversation, but do you remember anything else he said as to what they had done, or the details or the problem?

A. No specific problem that they had worked out on, no. [517]

Q. What did you say to him about the problem when you and he were sitting in the office, do you remember?

A. What did I say to him about the problem?

Q. Yes. Do you remember what you said in this conversation in the office?

A. I am not going to say whether it was in the office or whether it was after we walked out to the particular problem at this time on this tank.

Q. But it started in the office?

A. It started in the office.

Q. How long were you in the office? A short time or a long time?

(Testimony of Joe Kerley.)

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Q. But it started in the office?

A. It started in the office.

Q. How long were you in the office? A short time or a long time?

(Testimony of Joe Kerley.)

A. Probably a short time. We might have discussed some other matters before this came up.

Q. You don't recall anything about that conversation in the office except Mr. Gross said they had a sealing problem? A. That's right.

Q. When you went out of the office, where did you go from there?

A. If I remember right, his office was just off one of their lab rooms or testing rooms, whichever you would like to call it, and I believe at that particular time this tank was in this room adjacent to Mr. Gross' office.

Q. Was this a large room, small room? What was it, shop, test room, or what? [518]

A. I would call it one of their test rooms, where they worked out their different tests on some problems.

Q. Was there equipment in there? Was there test equipment in that room?

A. That I don't remember.

Q. You don't remember?

A. That's right.

Q. What was in the room? Do you remember anything that was in the room?

A. No. At that particular time Rohr Aircraft was moving their lab around quite a bit.

Q. The answer is you don't remember?

Mr. Williams: Let him answer the question.

Mr. Fulwider: He said no. I don't think the rest of it is particularly important.

The Court: I think we will make more progress

(Testimony of Joe Kerley.)

if he would answer the question and not volunteer a lot of information.

Mr. Fulwider: That was my thought, your Honor.

Q. The answer was no, you don't remember?

A. That's right.

Q. How big was that room?

A. Possibly 15 by 20, possibly 24 by 30 average. I didn't measure it.

Q. You say there was a tank in the room. What sort of [519] a tank?

A. I said it was what I call a tank in the room.

Q. What do you call a tank?

A. I would call a tank a container that would be like on your car for handling gasoline or an airplane for the fuel that goes through the motors of the plane.

Q. How big was this tank?

A. That I can't answer.

Q. Approximately how big, 10 feet, 2 feet?

A. It could have been anywhere from 2 feet across to 10 feet long, 6 feet long. I didn't pay too much attention to the tank.

Q. Was it a tank out of an aircraft?

A. Out of an aircraft?

Q. Yes.

A. I understood it was. I didn't see it taken out.

Q. Are you familiar with tanks in aircraft?

A. Not too familiar, no.

Q. So you don't know whether it was a tank that came out of an aircraft or not?

(Testimony of Joe Kerley.)

A. I wouldn't swear.

Q. It could have been two feet long or 10 feet long? A. That is what I said.

Q. You are not sure which?

A. I am not sure which. [520]

Q. How high was it?

A. Oh, possibly two feet high if it was laying on the floor. I am talking from the bottom of the tank to the top. Now, that is merely a guess with me.

Q. About how broad was it?

A. I believe I have already said approximately maybe two or three feet. I am not sure about that, Mr. Fulwider.

Q. Whereabouts in this room was this tank located?

A. Well, I would say approximately the center. I could give you quite an answer on that, but I won't.

Q. That is a sufficient answer. Who was present in this room when you walked out with Mr. Gross?

A. I couldn't name anyone that was present. Mr. Gross is the only one I knew by name at that time.

Q. How many people were there in the room when you and Mr. Gross walked up to this tank?

A. Three, four.

Q. You don't know the names of any of them?

A. No, sir.

Q. Had you ever seen any of them before?

(Testimony of Joe Kerley.)

A. Yes. I am sure I have seen some of them before because I was in the laboratory considerably.

Q. Do you know whether they were engineers or mechanics? A. That I couldn't tell you.

Q. What did you do when you and Mr. Gross joined these [521] gentlemen at the tank?

A. That was when the idea come up of trying to seal it with a rubber O ring. If I remember, we took some of the O rings off of Mr. Gross' desk out there with us.

Q. Who is "we"?

A. Mr. Gross and myself.

Q. In his pocket or in his hand?

A. I don't remember whether he took them or I took them.

Q. Then what did you do when you got out to the tank?

A. As I say, the idea came up. If I remember correctly, I mentioned it.

Q. Just a minute. You say the idea came up. What did you say to Mr. Gross and what did he say to you when you got to the tank? Did he explain the problem to you?

A. Yes, he explained the problem that they were leaking around the bolts.

Q. Did he show you the bolts in this tank that were leaking?

A. I don't know as he pointed out any specific bolts, no.

Q. Was there liquid in the tank then?

(Testimony of Joe Kerley.)

A. I am not sure of that. I took Mr. Gross' word for it that they were leaking. That was all that was necessary.

Q. You didn't see any leaky bolts at that moment? [522] A. I don't remember.

Q. What did you say to Mr. Gross then?

A. Well, we were discussing the possibility of an O ring under the head of the bolt for sealing. I brought up the suggestion that if the metal was thick enough to countersink, which it wasn't and I admitted that, and also that the tank was too bulky, you couldn't get it under a machine for countersink, that if you dropped a rubber O ring in that to contain it, it would stop the leak.

That was when I believe immediately or very shortly after that Mr. Gross came up with the idea, and it was Mr. Gross' idea; I will put it this way, he is the only one I heard voice the idea of putting a metal washer or retainer around the O ring.

Q. Did any of the other people say anything at this conference?

A. I imagine there was some conversation going on, but I don't remember any of it except Mr. Gross' idea of putting the rubber O ring in. Nobody else mentioned it to me at that time.

Q. What did you say when he suggested that?

A. I told Mr. Gross I believed he had a good idea and I believed it would work.

Q. With reference to this countersink, the sketch you made on the board, does that illustrate

(Testimony of Joe Kerley.)

what you say you suggested [523] to Mr. Gross at that time?

A. That illustrates it but I didn't make any sketch of it at that time. It wasn't necessary.

Q. Did you ever see a construction like that sketched there, as you have sketched it, on a pump?

A. Not exactly. Well, it would be under the same circumstances, yes, for sealing.

Q. Did you ever see one? A. Yes. [524]

* * * * *

Q. (By Mr. Fulwider): Then what was done? Somebody brought some bolts and washers back. Did they have on rings at the time?

A. Wait. You will have to ask that again. I started to answer one question and then you came in with another one.

Q. What was done immediately after the return of somebody with bolts and washers?

A. Again, to the best of my recollection, they were put under the head of the bolt and applied as the Lock-O-Seal is applied today, as I understand it, and to the best of [526] my recollection it stopped the leak of the bolts that the seal was installed under.

Q. You say there are—there were about six to a dozen installed on this tank at that time?

A. I believe that is correct.

Q. Were there open holes there waiting for somebody to put a bolt in them?

A. Mr. Fulwider, I don't remember that.

Q. You don't recall whether they had to take

(Testimony of Joe Kerley.)

out some other bolts first and put these new ones in?

A. I am not saying that they put any bolts in. They might have taken the old ones out and put the old bolts back in that were leaking.

Q. You don't recall? A. I don't recall.

Q. You don't recall whether there was any liquid in the tank prior to this operation?

A. I don't remember whether there was when Mr. Gross and I walked out there. There must have been liquid in the tank before, because they said the bolts were leaking.

Q. Was this a test tank specially made up to test sealing devices?

A. I understood it was a tank out of a Coronado patrol bomber.

Q. Regular wing tank? [527]

A. That was my understanding.

Q. Do you remember who tightened the bolts up? Who did this demonstration? Was it Mr. Gross or was it somebody else?

A. No, sir, I don't.

Q. Do you remember how much later this demonstration was after you first went out there to this room?

A. I believe I stated it was a short time later, maybe an hour, two hours.

Q. How was the test, the pressure test, run on this tank?

A. Mr. Fulwider, I believe I stated that I did

(Testimony of Joe Kerley.)

not know whether it was—I believed it was a fluid instead of air, but I am not sure.

Q. As I understand it, there was liquid in the tank or they put liquid in the tank. How did they run this pressure test?

A. I believe I stated.

Q. What did they do to find out where this thing was going to leak other than putting liquid in the tank?

A. You have got to have so much pressure in the tank, unless you have a gravity leak. If your bolts are on top of the tank, you would have to have pressure against the fluid.

Q. I understand. I am asking you how did they apply the pressure to the tank to test the seals at this time.

A. How did they apply the pressure? [528]

Q. Yes.

A. You have got me there, Mr. Fulwider.

Q. You said you saw them put on a pressure test.

Mr. Williams: The witness has stated three times that he doesn't know, counsel. I think that should be sufficient.

Q. (By Mr. Fulwider): Then you don't know?

A. No, I don't know just exactly how they put the pressure to the tank.

Q. Did you see them put pressure on the tank?

A. Mr. Fulwider, that has been a long time ago.

Q. I realize that.

A. And I have stated that they did test the tank.

(Testimony of Joe Kerley.)

Q. Your testimony is that you saw them test the tank right there in front of you.

A. I believe that's right.

Q. That is your best recollection now?

A. That is my best recollection.

Q. Then what happened after they tested the tank? Did you stay around some more?

A. I don't believe so. I usually came back to Los Angeles every day, I mean every day that I went down there, or the same day.

Q. Did you and Mr. Gross discuss this test after it was accomplished? [529]

A. I don't remember any discussion about it at the time.

Q. How long did that test run, do you recall that? A. No, sir.

Q. Was the test still going on when you left?

A. I am not sure.

Q. You are not sure whether you and Mr. Gross discussed it after the test had run or not?

A. I don't remember any discussion.

Q. Do you remember what time you left?

A. No, sir.

Q. Do you remember anything else that happened that day? A. No, sir.

Q. Do you remember any other discussions you had with Mr. Gross, other than the ones you have testified to here? A. No.

Q. That day.

A. I don't remember any specific discussion. There was probably other things came up. Mr.

(Testimony of Joe Kerley.)

Gross and I worked pretty close together on other things.

Q. But you don't remember any other conversation that day? A. No specific conversation.

Q. Do you remember in what month in 1944 that was? [530]

A. No, sir, I couldn't tell you.

Q. Can you tell me what part of 1944 it was?

A. I believe it was in the first part of 1944, somewhere around there.

Q. What do you mean by the first part?

A. What would you call the first part?

Q. I am asking you. [531]

* * * * *

Q. (By Mr. Fulwider): Well, I will ask you a question, now, then, did you bring this matter up with Mr. Gross, of your alleged contribution to this invention, by telephone or in person?

A. I believe it was on the telephone, during the conversation at the same time that Mr. Gross informed me they were applying for a patent application or going to apply for a patent application.

Q. That is when you heard that they were going to file one? A. That is right.

Q. And will you tell us when that was, what month it was?

A. Well, again to the best of my recollection, it was shortly afterwards. I believe that it was in two to four weeks after the day they tried them out.

(Testimony of Joe Kerley.)

Q. Exactly what did you say to Mr. Gross in this conversation over the telephone?

A. Well, I believe it was as I stated, in more or less a kidding way, "They can't do that, that is our idea."

Q. Did you say anything else to him, if you recall?

A. There was nothing further then, other than Mr. Gross said, "If you come down, come down and we will discuss it."

Q. Is that all that was said? [532]

A. I believe that was all that was said in that particular conversation.

* * * * *

The Court: When did you first know that Mr. Gross had applied for a patent, personally; that is, you said personally applied for a patent?

A. Well, I never did know that Mr. Gross personally, himself, applied for a patent, your Honor. He was working for Rohr Aircraft, and usually the company applies for the patent. They may leave it in the man's name who thinks it up, but I never did understand specifically that Mr. Gross applied for a patent for himself. I always understood that it was Rohr that applied for a patent. [533]

* * * * *

Q. (By Mr. Fulwider): Now, calling your attention to your deposition, Mr. Kerley, we will turn to page 12, line 17. It states there—first, question on 16:

(Testimony of Joe Kerley.)

"Would you explain what those circumstances were?

"Answer. Well, I happened to be there one day calling on Mr. Gross in the lab, and they brought this fuel tank in—I would call it—from one of the plants, leaking badly"——

The Witness: Could I butt in here for a minute?

Mr. Fulwider: Yes.

The Witness: I believe that this was either misprinted or I stated it wrong. I meant from the plane instead of their plant.

Mr. Fulwider: The "plane." I wondered about that. We will accept the correction.

"——leaking very badly, and there were several fellows around, trying to figure out an easy way to seal it, and before the thing was finished, the idea of this Lock-O-Seal came up.", and did you so testify in your deposition?

A. That is right.

Q. Now, then, on page 15, line 3,

"Question. What did you have to do with the idea?

"Answer. Well, if I remember right, the day that they brought it in there, we were playing around with some [536] rubber O rings, and someone brought up the idea—I do not remember exactly who, but I think it was myself—and of course, we couldn't counter-sink and drop a rubber O ring around the heads of the bolt, and the idea came up of putting a washer around it to act as a countersink. To the best of my knowledge, that is the way

(Testimony of Joe Kerley.)

the Lock-O-Seal was born. I was under the impression that it was Mr. Gross' idea for the washer, which came from the idea of the counter-sink and dropping it in."

Did you so testify? A. Yes.

Q. Now, as of the time of the taking of this deposition in May of 1956, you said that you don't remember exactly who had the counter-sink idea, you thought, then, that it was you. Now, I take it that you are sure, now, that it was you?

A. I remember bringing it up, and as I stated the other day, the idea wasn't exactly mine, because I had seen it before. I mean it didn't flash into my mind all of a sudden.

Q. Now, today or yesterday, you are positive that you brought up this counter-sink suggestion in your conference with Mr. Gross?

A. Yes. I am sure.

Q. All right. Now, then, after this telephone [537] conversation with Mr. Gross, you went down to San Diego? A. That is right.

Q. And I believe you said it was a week or thereabouts after? A. A week to two weeks.

Q. Yes. A. Possibly a little longer.

Q. And you place it around a month after you had this conference at the tank, shall we call it?

A. I believe I said two weeks or a month.

Q. Yes. So we are about three to five or six weeks after that. That was in the early part of 1944, if my arithmetic is right, and that you would have then gone down to Rohr in about April and

(Testimony of Joe Kerley.)

had this conference with him and Mr. Shepard that you mentioned?

A. Well, I didn't pin it down to any certain month, Mr. Fulwider, because I just don't remember those dates.

Q. Well, do you have any records or memorandum that you can refer to to refresh your recollection of these events or dates?

A. No, I don't have.

Q. Nothing? A. No, sir.

Q. All right. You did state, did you not, that the call on the phone was from two to four weeks after your tank [538] conference?

A. That is right.

Q. And the tank conference, you say, was at the forepart of '44?

A. I believe it was at the early part of '44.

Q. Yes. We will say the first quarter?

A. Yes.

Q. All right. Then you went down to see Mr. Gross in about April or May, didn't you, or was it the next fall?

A. Well, as I stated, it was somewhere, as near as I remember, from two to four weeks after the testing at the tank.

Q. It wasn't the latter part of the year, it wasn't two or three months later?

A. No. I am reasonably sure it wasn't that long.

Q. Now, did you go to see Mr. Gross first when

(Testimony of Joe Kerley.)

you got to Rohr that day on this conference, this call you made after the telephone conversation?

A. I saw Mr. Gross before we talked to Mr. Shepard.

Q. Had Mr. Gross said anything to you on the telephone about going to see Mr. Shepard or anybody else?

A. I don't believe so. I believe he said, as I stated, we could come down and discuss it.

Q. All right. What did you say to Mr. Gross when you met him at this conference? [539]

A. Which conference are you speaking of?

Q. This last conference about which we are discussing.

A. When I went down after the test in the tank?

Q. After your phone call or the call at the first conference, after the phone call?

A. Well, Mr. Fulwider, I don't remember the first thing I said to him.

Q. Well, do you remember anything you said to him? A. Oh, yes, I remember.

Q. Yes. Was there anyone else present?

Mr. Williams: Will you let the man answer the question, counsel?

Mr. Fulwider: I had in mind or thought you would object for the lack of foundation and I thought I would lay it before he got the answer out.

Q. Was there anyone else present?

A. I don't believe there was right there in Mr. Gross' office.

(Testimony of Joe Kerley.)

Q. All right. Tell us what you said and what he said.

A. Well, now, we are going to speak of the conversation that was had about the Lock-O-Seal at that time?

Q. Yes. A. Nothing else.

Q. The other conversation I am not interested in. [540]

A. O.K. You asked me what I said to him first. It is hard to remember. I couldn't give it to you in exact words at all. I do know that we discussed it and after a discussion we went over to Mr. Shepard's office.

Q. You went over to discuss it? A. Yes.

Q. Do you remember the substance of what you said to him?

A. Well, I believe I said to Mr. Gross, "If anything comes of this thing in the way of manufacturing rights, I would like to get in on some of it, part of it."

Q. Did you say anything to him about thinking you were a part inventor?

A. Not that I remember, no, sir.

Q. As a matter of fact, you didn't think you were a part inventor of it?

A. I have never claimed to be a part inventor of it. All I asked for were manufacturing rights.

Q. Then, did you determine any basis upon which you thought you ought to have an interest or some rights? Were they legal, moral, equitable?

A. As well as I remember the conversation, I

(Testimony of Joe Kerley.)

told Mr. Gross that I thought he had a very good idea there and that I believed it could be applied in a lot of ways, and that I would like to get in, I figured I might have [541] contributed something to the idea, that I would like to get in on some part of it, maybe the manufacturing rights. I am not sure whether I actually said manufacturing rights or not.

Q. You thought it was going to be successful, and if it was, you would like to have a chance to merchandise it? A. Yes.

Q. And what did he say?

A. He said let us go over and talk to Mr. Shepard about it.

Q. And did you go over and talk to Mr. Shepard? A. Yes, sir.

Q. In Mr. Shepard's office?

A. In Mr. Shepard's office.

Q. And what was said at the conference with Mr. Shepard in his office?

A. Well, the substance of it was that Mr. Shepard offered me——

Q. May I interrupt, please?

A. Go ahead.

Q. Somebody had opened this conversation with Mr. Shepard, and I assume he didn't know anything about it at this point, did he? You hadn't talked to Mr. Shepard before that time?

A. I hadn't talked to Mr. Shepard, I don't believe, [542] before that time. I didn't even know Mr. Shepard before this conversation.

(Testimony of Joe Kerley.)

Q. Who opened the conversation? Did you tell Mr. Shepard you wanted something or did Mr. Gross say you wanted something?

A. I believe that is pretty clear in my mind. I believe when I went there with Mr. Gross, he introduced me to Mr. Shepard and told Mr. Shepard who I was and that I was interested in the Lock-O-Seal, possibly I had contributed a little bit of something to the idea that brought it up, and I believe Mr. Gross told Mr. Shepard he would like to see me, if it was going to be manufactured, not that these are the exact words, but, if it was going to be manufactured, he would like to see me possibly handle it.

Q. Mr. Gross said that? A. Yes, sir.

Q. And what did Mr. Shepard say?

A. I believe Mr. Shepard said he thought it could be arranged for me to have manufacturing rights on it.

Q. That was in '44, I think it was around in April, maybe, or May, 1944, the World War was going on, wasn't it?

A. It was awhile after the idea of the Duo-Seal came up—I mean the Lock-O-Seal. Pardon me.

Q. And did you do anything more after this conference with Mr. Shepard and Mr. Gross looking toward the manufacture [543] of this sealing device? A. Yes.

Q. Before the end of the year? A. I did.

Q. What?

(Testimony of Joe Kerley.)

A. I offered it to the company I was working for.

Q. You what?

A. I offered it to the company I was working for, for them to manufacture, because they had the facilities for making the metal, the O rings and all.

Q. You say you offered it to them?

A. That is right.

Q. And you suggested to them that they might want to manufacture this? A. That is right.

Q. To whom did you talk?

A. Mr. McClatchie.

Q. You didn't have that idea when you talked to Shepard, did you?

A. What idea is that, now?

Q. Of offering it to the company or for the benefit of the company?

A. Yes, that is right. I was thinking about them at that time. I figured it would be a good idea for them to manufacture. [544]

Mr. Fulwider: I am sorry. I can't find that reference at the moment. I will come back to it.

Q. Now, then, nothing came of it until after the war, your conversation with McClatchie, or did Mr. McClatchie do anything towards getting that manufactured? A. No. They didn't care for it.

Q. Well, leaving that out for the moment, I believe yesterday you said in response to questioning by Mr. Miller that in 1948, when you heard that Rohr was making or had made a contract with the Wolfe Company, that you were very disturbed?

(Testimony of Joe Kerley.)

A. That is right.

Mr. Fulwider: And that contract, I believe, is No. 91, is it not?

I am talking about this contract, Exhibit No. 91, that you got disturbed, that got you disturbed?

A. Well, I believe I stated yesterday that I wasn't too sure, but I was under the impression that I possibly heard it from Mr. Hegmann.

Q. Mr. Hegmann? A. Hegmann.

Q. Where were you when you heard it?

A. I don't remember.

Q. What were the circumstances of your hearing it? A. I don't remember. [545]

Q. Well, at the time he told you they were getting a contract, did he say anything to you about Rubber Teck continuing on the manufacture in the same way it had?

A. I don't remember whether that came up or not.

Q. You don't recall?

A. No. I am not even too sure that I heard it from Mr. Hegmann. I said I believed it was.

Q. Then, if it wasn't Mr. Hegmann, then you don't know who it was? A. No, sir.

Q. If Mr. Hegmann didn't tell you and you heard it elsewhere did you talk to Mr. Hegmann or Paul Smith or Col. Wolfe or anyone at the Wolfe Company about were they going to discontinue manufacturing this, being the Rubber Teck manufacturing of O rings for the Lock-O-Seal?

(Testimony of Joe Kerley.)

A. I don't remember having any discussion with them. It could have been, but I don't remember.

Q. You were disturbed that perhaps you weren't going to be able to continue to manufacture the Lock-O-Seals for the Wolfe Company, right?

A. I was disturbed to the extent that I wanted to find out.

Q. But you don't recall whether or not you went to the Wolfe Company to ask them what their plans were? A. No, I don't remember.

Q. As I understand it, you and Mr. Karres went down to San Diego to talk to Mr. Shepard.

A. That's right.

Q. To ask him what your status was with the Wolfe Company.

A. That's right. We figured that would be the best source to get it from.

Q. How long had you been manufacturing Lock-O-Seals for the Wolfe Company prior to this trip by you and Mr. Karres down to Rohr?

A. I don't remember. There is an interval in there where the Industrial Sales broke off some place and the Wolfe Company took over that I don't remember too much about that.

Q. But you had been manufacturing Lock-O-Seals for the Wolfe Company for quite some time before this new contract of 1948 came up, hadn't you?

A. I don't hardly think so. It is very vague to me [547] right in there some place.

(Testimony of Joe Kerley.)

Q. If you refer to Exhibit 91, I believe that is the date, November 12, 1948, isn't it?

A. Yes.

Q. Have you ever examined that contract?

A. Yes, I think I read it over.

Q. I believe you did read yesterday a portion of it that said that, "Licensee agrees not to contract for or sub-license the manufacture of sealing devices hereunder without first securing the consent of the licensor."

Do you recall reading that provision yesterday, or Mr. Miller reading it? A. Yes, sir.

Q. Were you aware of that provision in this agreement or any such provision when you went down to Rohr? A. No, sir.

Q. Whom did you talk to down at Rohr on this visit with Mr. Karres? A. Mr. Shepard.

Q. Have you been able to fix that as being before November 12th or after?

A. It was certainly before this — now, wait a minute. You have got me a little mixed up. I want to see the contract.

The Court: Here it is. [548]

The Witness: Thank you. I couldn't say whether it was before this contract, which is dated November, or afterwards, because I had not seen this contract.

Q. (By Mr. Fulwider): Do you have any independent recollection whatsoever as to when you went down to talk to Mr. Shepard and took Mr. Karres with you?

(Testimony of Joe Kerley.)

A. Well, I will try to explain that last statement I made a little bit. It must have been after this contract. I won't say that the contract was drawn up, but it must have been that they had been promised the manufacturing rights before I went down, and I imagine this was in existence before I went down.

Q. Do you know when Mr. Karres came with the Rubber Teck Company? It was in 1947 sometime, wasn't it?

A. The latter part of 1947 or first of 1948, if I remember right.

Q. This is 1948. What was it Mr. Shepard told you as to Rubber Teck's status under the contract that they just made with the Wolfe Company?

A. Mr. Shepard told me, not in the exact words the way I am going to say it, that the understanding was between them and the Wolfe Company that the Wolfe Company were to handle the sales. Now, they had manufacturing rights, but that they were in turn to give the manufacturing rights to us. I don't remember for sure whether he said Rubber Teck or to me. [549]

Q. In other words, Mr. Shepard told you that they were not going to disturb your manufacturing rights.

A. He might not have said it in that many words, but I went away from there with the very strong idea that we were going to continue to manufacture. That is what Mr. Shepard assured me of.

Q. And there had been no cessation in that man-

(Testimony of Joe Kerley.)

ufacture up to that time and he assured you you would be able to continue manufacturing?

A. That was my understanding, Mr. Fulwider.

* * * * *

Q. (By Mr. Fulwider): Mr. Kerley, this morning I believe you mentioned that during the years 1941 and 1942 Rohr had run some tests on parts sold to them or furnished to them by McClatchie. Those were purely routine tests, were they not, to see whether or not the McClatchie parts met specifications?

A. Yes, sir, that's right. They were to test the rubber compound that was used in the parts.

Q. They were purely routine tests and there were no formal reports rendered to you, were there?

A. Not that I remember.

Q. This morning I believe you reaffirmed what your testimony was yesterday, that at your request the Rohr laboratory tested various of these rubbers as indicated in Exhibits 3 and 5, reports 3 and 5, that is correct, isn't it? [557]

A. Well, I am sure it is. I don't know as I know which report is 3 and 5.

Q. That is the fact, I can assure you. These reports were sent to Wright Field to get Wright Field approval of these two rubbers which were not used in Lock-O-Seals, is that correct?

A. I am sure that is correct. They were sent for test.

Q. At the time you requested Mr. Gross to have the Rohr laboratory run these tests for you, did you

(Testimony of Joe Kerley.)

tell him that you wanted the tests so that you could qualify a rubber with Wright Field to enable you to compete with the Wolfe Company, the Rohr licensee?

A. Well, now, I might have told him I wanted them run to a test, to a government specification. We had other parts that we were using rubber in for the government or to meet a government specification, other than using them on a Duo-Seal, if we had a Duo-Seal at that time.

Q. I believe you testified, did you not, that these particular reports, or at least one of them, that you got the Rohr reports on the rubber and sent them to Wright Field for approval which were used in Duo-Seals? A. I believe that is correct.

Q. You didn't have any?

Mr. Miller: Your Honor, when I started examining this [558] witness this morning about these reports and the relationship to Wright Field——

The Court: Do you object?

Mr. Miller: Yes.

The Court: Sustained. I don't think this rubber has a thing to do with this question at all.

Mr. Fulwider: It does very much, your Honor, in this, that these people had a course of conduct. Rohr was making reports for them in connection with Lock-O-Seals.

Mr. Miller: That may be true, but that is only half the story, Mr. Fulwider. They were making reports on a whole lot of things.